

PCC PAVEMENT - GRADE AND NEW  
 NHSN-030-4(92)--2R-08  
 LETTING DATE  
 01/18/2023

BOONE COUNTY



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**BOONE COUNTY**  
 PCC PAVEMENT - GRADE AND NEW  
 CO. RD. R18 INTERSECTION

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

REVISIONS	

TOTAL
104
PROJECT IDENTIFICATION NUMBER
17-08-030-010
PROJECT NUMBER
NHSN-030-4(92)--2R-08
R.O.W. PROJECT NUMBER

No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
* B.1 - 3	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1 - 6	Quantities, General Notes and Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	US 30
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1 - 3	L Avenue Relocated
<b>F Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* F.1 - 3	L Avenue Existing
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Legend
G.2	Map location
G.3	Horizontal Control
<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
* H.1	R.O.W. Plan
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Staging Legend & Symbol Info. Sheet
* J.2	Staging Plan Stage 1
* J.3	Staging Plan Stage 2
* J.4	Staging Plan Stage 3
<b>L Sheets</b>	<b>Intersection Movements Sheets</b>
L.1	Intersection Movements
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1 - 26	US 30 Cross Sections
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 22	L Avenue Relocated Cross Sections
<b>Y Sheets</b>	<b>Side Road Cross Sections</b>
Y.1 - 18	L Avenue Cross Sections
	* Color Plan Sheets

MILEAGE SUMMARY			
			105-1
			09-27-94
Div.	Location	Lin. Ft.	Miles
	US-30 Sta 2752+50.00 to Sta 2761+67.36 Sta 2765+11.84 to Sta 2773+93.14	917.36 881.30	0.174 0.167
	L AVENUE RELOCATED Sta 10+87.44 to Sta 26+18.34	1530.90	0.290
	TOTAL NET LENGTH OF PROJECT	3329.56	0.631



EXISTING L AVENUE	US 30 TURN LANES	RELOCATED L AVENUE
<b>EARTHWORK SUMMARY</b>	<b>EARTHWORK SUMMARY</b>	<b>EARTHWORK SUMMARY</b>
CUT 2284 CY	CUT 416 CY	CUT 6247 CY
FILL +30% 111 CY	FILL +30% 2567 CY	FILL +30% 9354 CY
WASTE 2173 CY	WASTE -2151 CY	WASTE -3107 CY

L AVENUE	
<b>DESIGN DATA RURAL</b>	
2021 AADT	1,040 V.P.D.
2041 AADT	1,270 V.P.D.
20 -- DHV	-- V.P.H.
TRUCKS	-- %
Total	
Design ESALs	--

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	GABRIEL A. NELSON	Primary Signature Block

LICENSED PROFESSIONAL ENGINEER

GABRIEL A. NELSON

P17382

IOWA

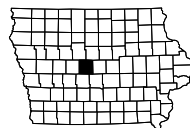
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

\_\_\_\_\_  
 Gabriel A. Nelson, P.E. Date

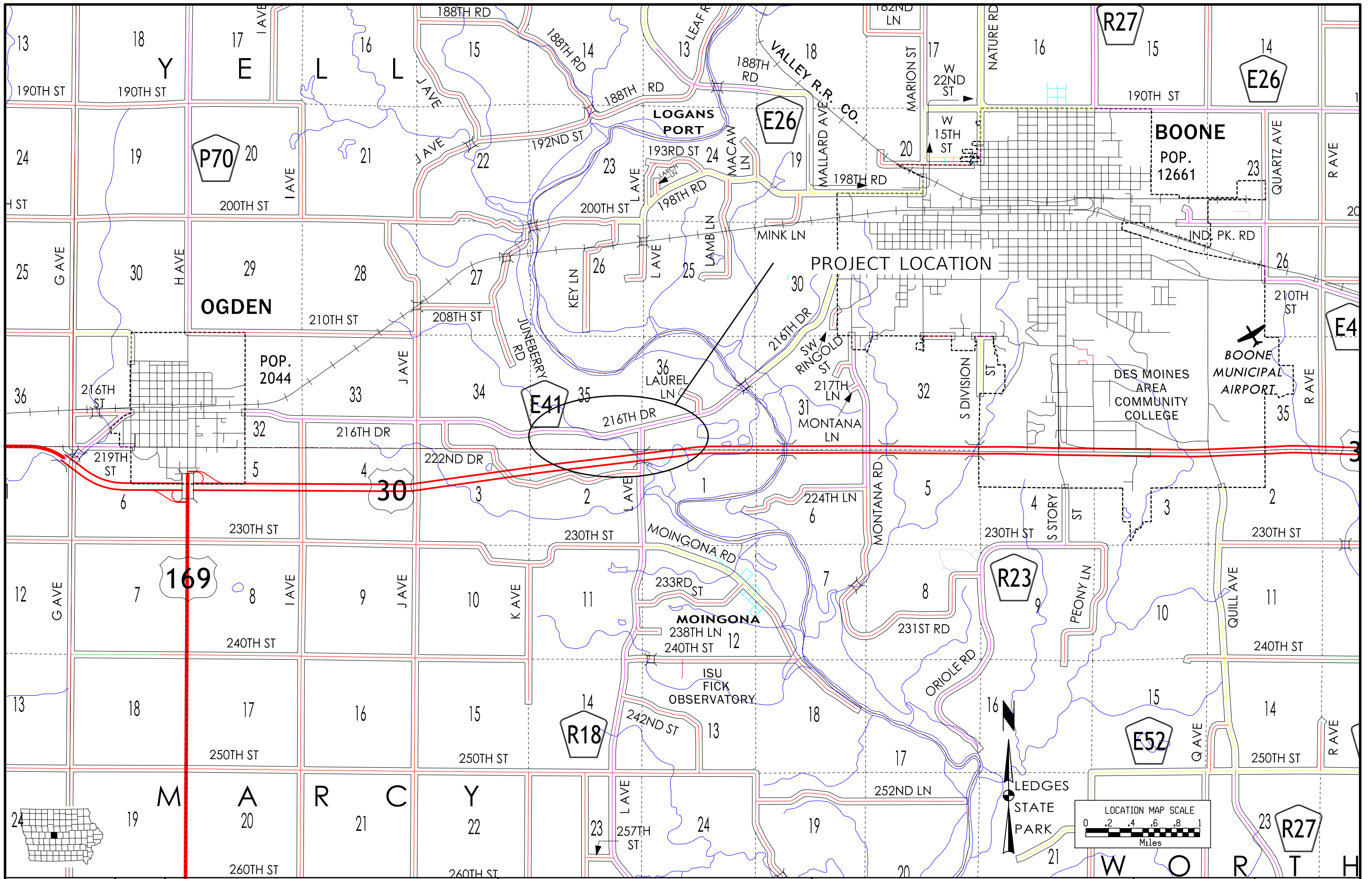
License Number P17382  
 My License Renewal Date is December 31, 2022

Pages or sheets covered by this seal:  
 A.1-A.2, B.1-B.3, D.1-D.5, E.1-E.3, F.1-F.3,  
 G.1-G.3, H.1, J.1-J.4, L.1, W.1-W.2,  
 X.1-X.2, Y.1-Y.10

D5 PLAN - Date: 05-15-2022

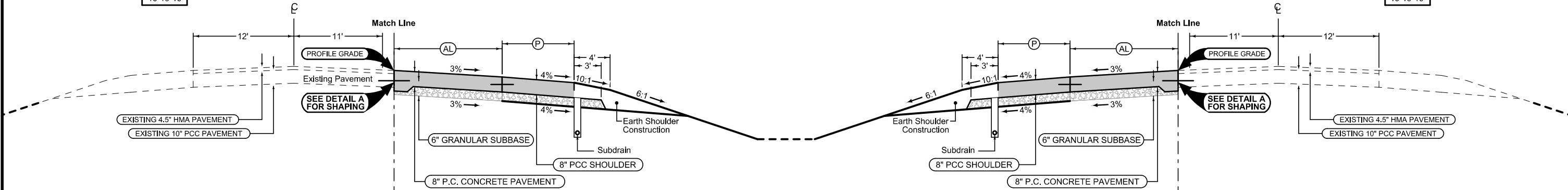


FOR PROJECT LOCATION MAP,  
 REFER TO SHEET A.2



2E\_10-19-10

2E\_10-19-10



**WB Auxiliary Lane Paved Shoulder**

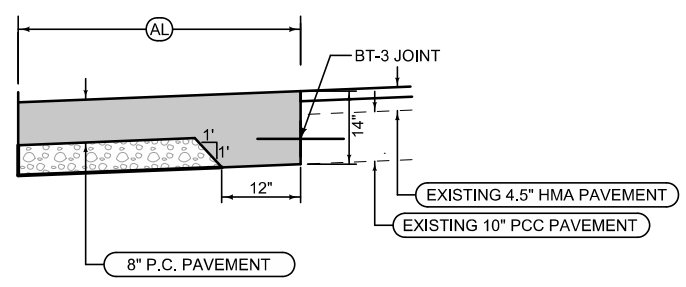
PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at 17' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_AL_Shldr_ALT_04-21-20		
STATION TO STATION		(P) Feet
2753+95.74	2761+22.14	6
2761+22.14	2761+67.36	Var.
--	--	--
--	--	--

**WB Auxiliary Lane**

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-18-16		
STATION TO STATION		(AL) Feet
2755+21.64	2759+72.14	13
2759+72.14	2761+22.14	13-3
2761+22.14	2761+39.14	3
--	--	--



**Detail A**

**EB Auxiliary Lane Paved Shoulder**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at 17' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

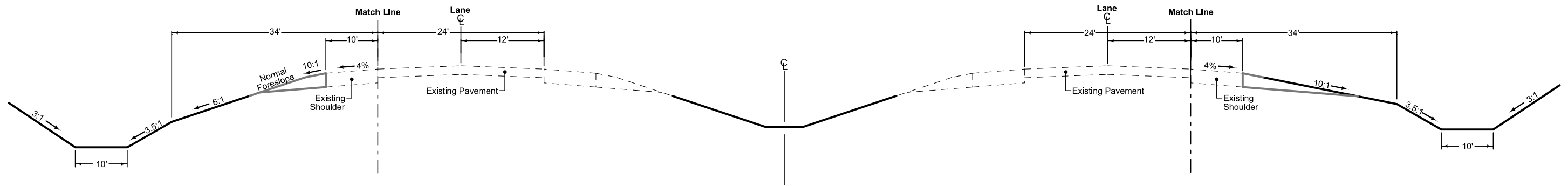
2_AL_Shldr_ALT_04-21-20		
STATION TO STATION		(P) Feet
2765+11.81	2765+34.63	Var.
2765+34.63	2772+37.63	6
--	--	--
--	--	--

**EB Auxiliary Lane**

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-18-16		
STATION TO STATION		(AL) Feet
2765+17.63	2766+84.63	Var.
2766+84.63	2772+37.63	13
--	--	--
--	--	--

**US 30 LEFT TURN LANE TYPICAL SECTION**



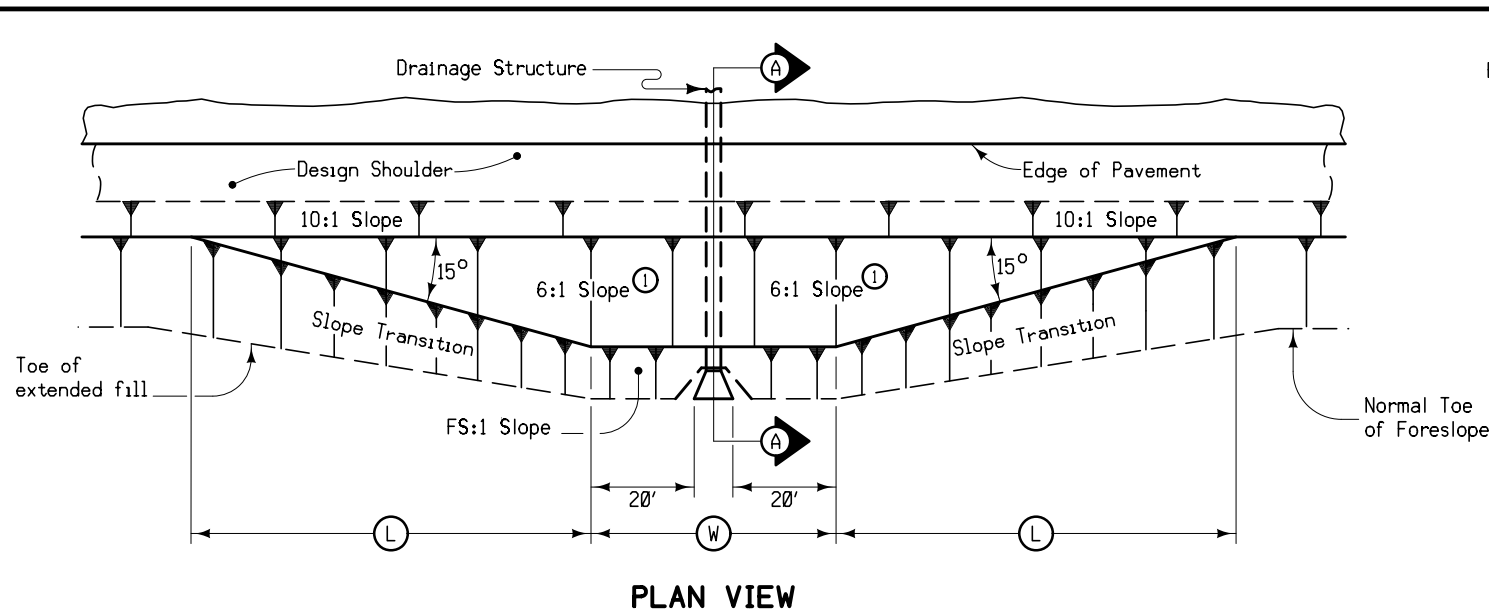
**WB Ditch Grading**

STATION TO STATION	
2752+93.00	2754+50.00
--	--
--	--
--	--

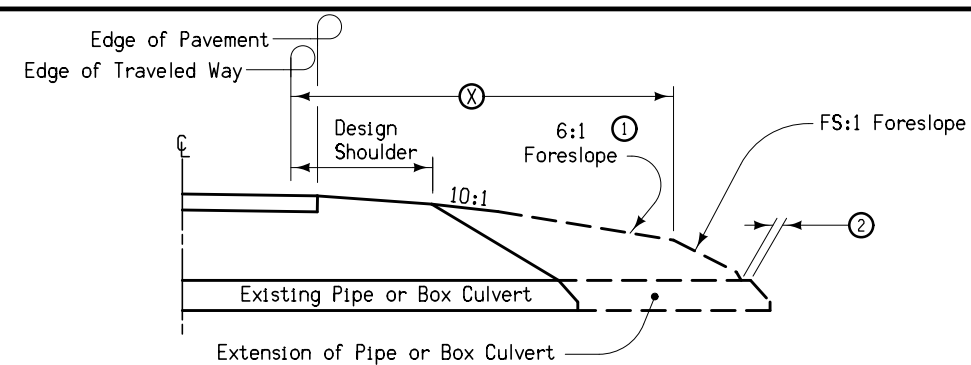
**EB Ditch Grading**

STATION TO STATION	
2771+94.32	2772+51.49
--	--
--	--
--	--

## US 30 DITCH GRADING TYPICAL SECTION



**PLAN VIEW**



**SECTION A-A**

STRUCTURE LOCATION		(W)	(L)	(X)	(FS)
STATION	SIDE	Feet	Feet	Feet	
2772+22.91	BOTH	57'	75'	34'	3.5:1

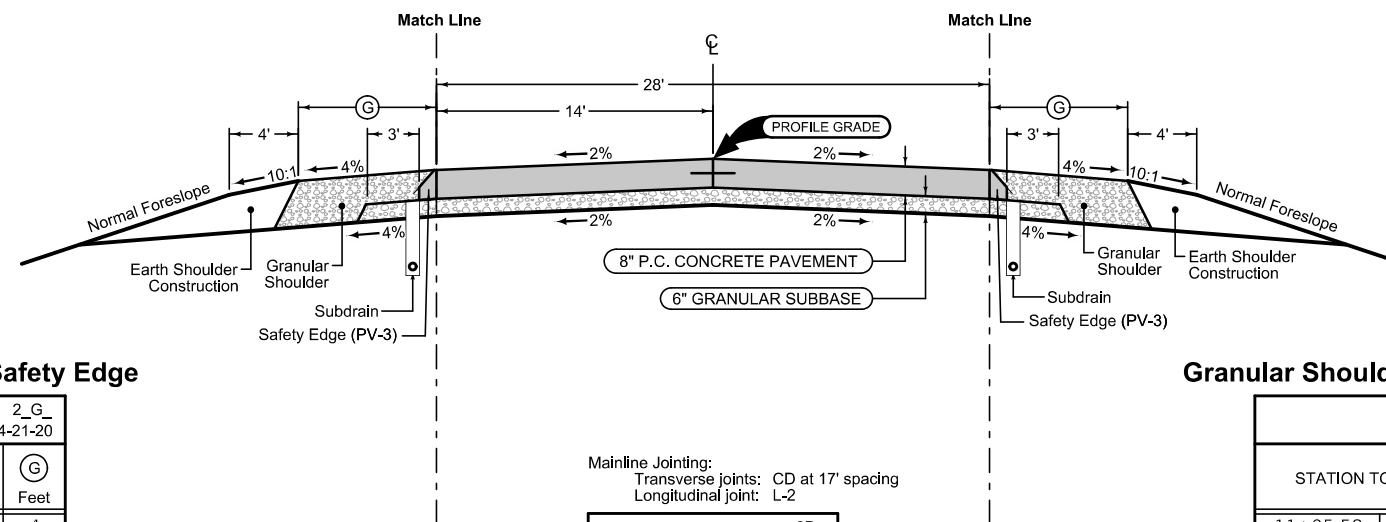
Notes:

At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten the foreslope as indicated so as to cover the structure. Minimum earth cover is 6".

- ① Slope may be flatter than 6:1.
- ② 6" Minimum for pipe installations or to top of headwall on R.C.B.
- (W) = Pipe or R.C.B. opening width plus 20 feet each side.

### BARNROOF FORESLOPE AT DRAINAGE STRUCTURE

4311  
04-18-17



**Granular Shoulder with Safety Edge**

2_G_		
04-21-20		
STATION TO STATION	⊙	Feet
10+68.16	25+68.49	4
--	--	--
--	--	--
--	--	--

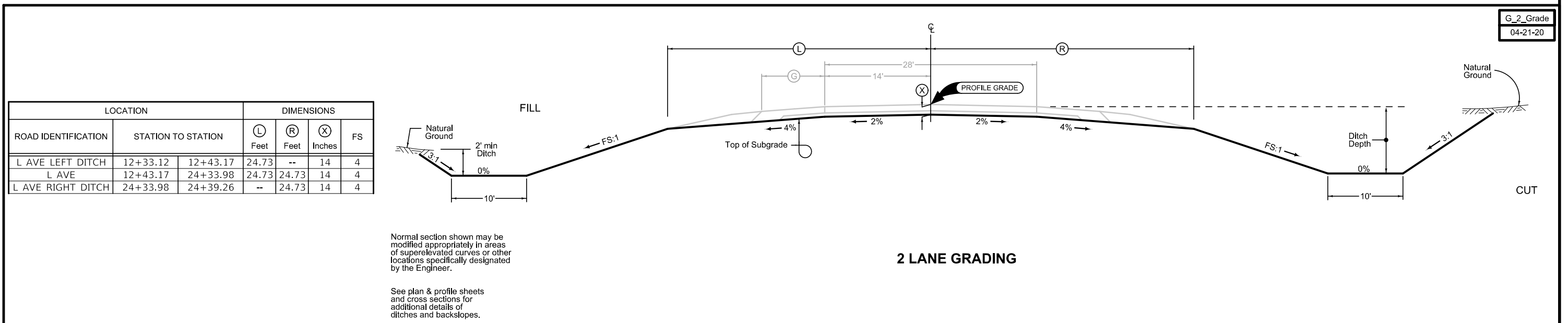
Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

2P_	
04-21-20	
STATION TO STATION	
11+92.00	24+89.26
--	--
--	--
--	--

**Granular Shoulder with Safety Edge**

2_G_		
04-21-20		
STATION TO STATION	⊙	Feet
11+05.58	26+18.90	4
--	--	--
--	--	--
--	--	--

## RELOCATED L AVENUE 28' TYPICAL SECTION



ROAD IDENTIFICATION	LOCATION		DIMENSIONS			
	STATION TO STATION	STATION TO STATION	⊙ Feet	⊙ Feet	⊙ Inches	FS
L AVE LEFT DITCH	12+33.12	12+43.17	24.73	--	14	4
L AVE	12+43.17	24+33.98	24.73	24.73	14	4
L AVE RIGHT DITCH	24+33.98	24+39.26	--	24.73	14	4

Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

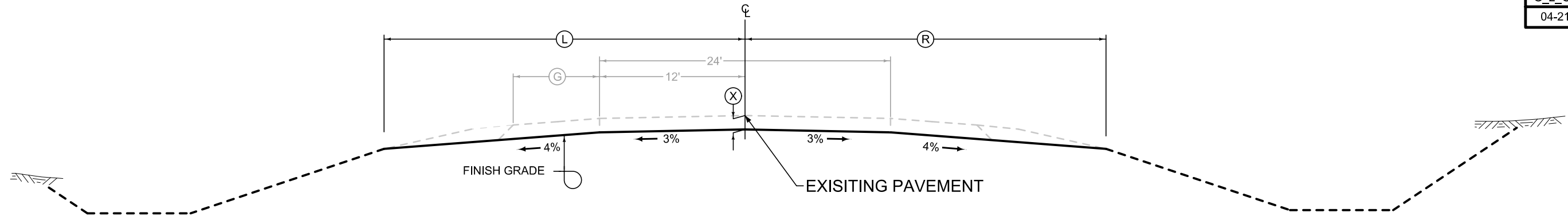
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

### 2 LANE GRADING

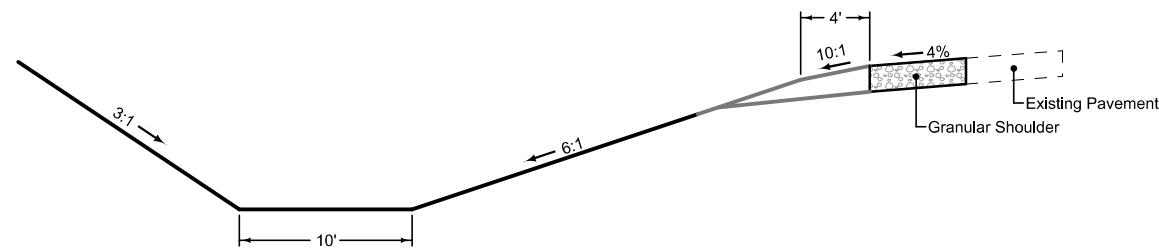
G\_2\_Grade  
04-21-20

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	Ⓛ Feet	Ⓡ Feet	Ⓧ Inches
EXISTING L AVENUE	311+86.73   323+24.43	VARIES	VARIES	7

G\_2\_Grade  
04-21-20



**PAVEMENT REMOVAL - EXISTING L AVENUE**



**SB Ditch Grading**

STATION TO STATION	
754+99.38	756+43.46
--	--
--	--
--	--

**DITCH GRADING - OLD US 30 AT EXISTING L AVENUE**

### SURVEY SYMBOLS

- IN Storm Sewer Intake
- FW Wire Fence
- INB Storm Sewer Beehive Intake
- PR Electric Riser Pole
- GP Guard Post (Less Than 4 Posts)
- SL Speed Limit Sign
- SI Sign
- TILE** TIL Tile Line
- GDL Guard Rail Steel
- LUM Luminaire
- UE Utility Elevation
- WV Water Valve
- GPR Guard Post (4 or More Posts)
- FP Filler Pipe
- OUT Tile Outlet
- MIS Miscellaneous
- PPA Power Pole Co. 1
- AST Above Ground Storage Tank
- LP L.P. Tank
- FLG Flag Poles
- WHD Water Hydrant
- WEL Well
- MH Utility Access (Manhole)
- TPD Telephone Pedestal
- MM Mile Marker Post
- FCL Chain Link and Security Fence
- EB Electrical Box
- TV Satellite TV Dish
- UB Utility Box
- UST Underground Tank
- GV Gas Valve
- WHU WHU RV Water Hook Up
- SEP Septic Tank
- FHD Fire Hydrants
- FWD Wood Fence
- RET Retaining Walls
- D Centerline Draw or Stream (Down)
- BNK Stream Bank
- RIP Rip-Rap
- EW Edge of Water
- DU Centerline Draw or Stream (Up)
- ENT Centerline BL of Entrance
- ENU Edge Unpaved Entrance & Parking
- EG Edge of Gravel Road
- SNP Unpaved Shoulder
- DIK Centerline of Dike or Dam

- F02 FOB Underground Fiber Optic Co. 2
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- W WLA Underground Water Line Co. 1
- ST ST2 STB Storm Sewer Line Co. 2
- SAN SAA Sanitary Sewer Line Co. 1
- E2 ELB Underground Electric Line Co. 2
- TV TVA Underground TV Cable Co. 1
- F03 FOC Underground Fiber Optic Co. 3

### UTILITY CONTACT INFORMATION

- CENTURYLINK  
MINDI BURGETT  
720-578-8090  
Mindi.Burgett@CenturyLink.com
- ICN  
DOUG EBELSHEISER  
515-725-4742  
Doug.Ebelsheiser@iowa.gov
- JEFFERSON TELECOM  
DUANE RUSSELL  
515-386-6024  
duane@jeffersontelecom.com
- NORTHERN NATURAL GAS  
KEITH GOOD  
515-202-5067  
keith.good@nngco.com
- OGDEN TELEPHONE COMPANY  
JOEL MUNSON  
515-275-2050  
ogdenteljoel@netins.net
- WINDSTREAM  
SUSAN LAMONT  
800-289-1901  
Susan.Lamont@windstream.com

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design	Color No.	Description
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING			
Design	Color No.	Description	
Lavender	(9)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(70)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

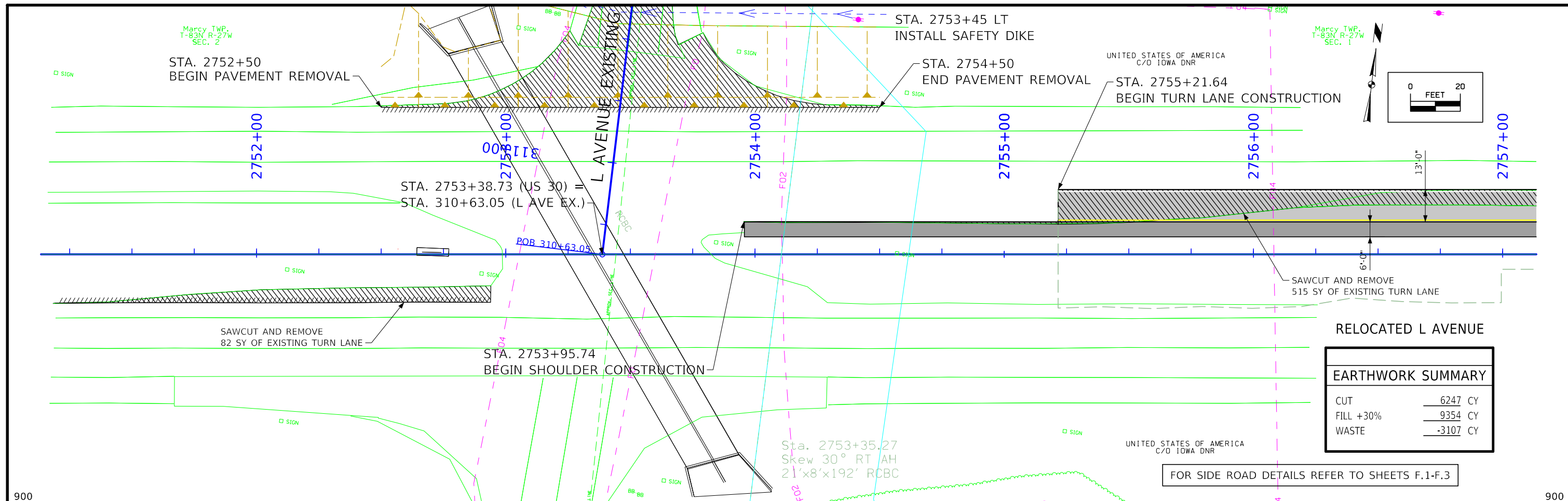
LINEWORK	Design	Color No.	Description
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- Reference Point
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

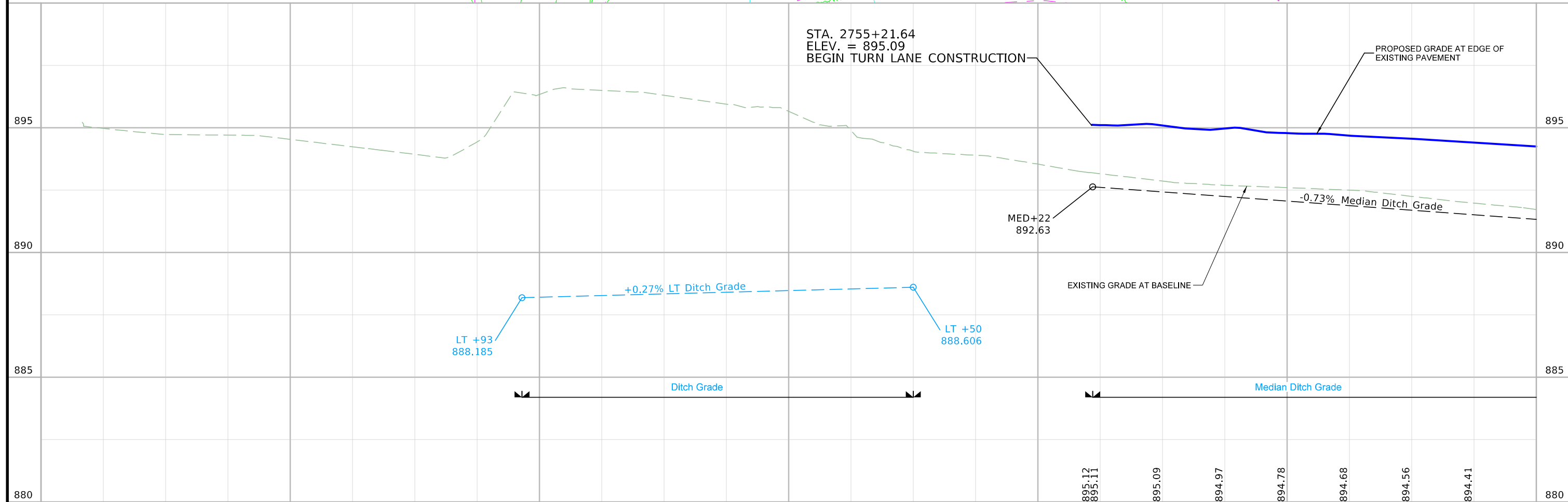
- #### RIGHT-OF-WAY LEGEND
- Proposed Right-of-Way
  - Existing Right of Way
  - Existing and Proposed Right-of-Way
  - Easement and Existing Right-of-Way
  - Easement (Temporary)
  - Easement
  - Access Control
  - Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)



EARTHWORK SUMMARY	
CUT	6247 CY
FILL +30%	9354 CY
WASTE	-3107 CY

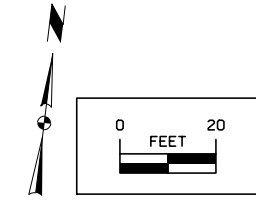




Marcy TWP,  
T-83N R-27W  
SEC. 1

UNITED STATES OF AMERICA  
C/O IOWA DNR

STA. 2761+39.14  
END TURN LANE  
CONSTRUCTION



2758+00

2759+00

2760+00

2761+00

2762+00

2763+00

BEGIN TAPER

END TAPER

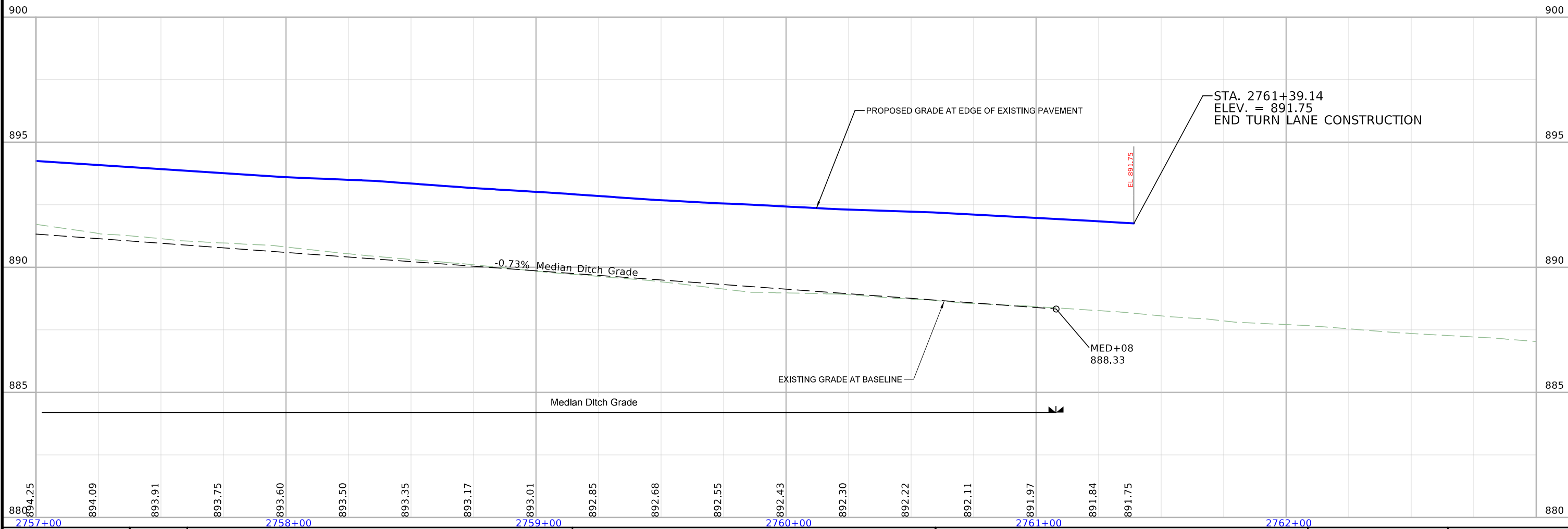
15:1 TAPER

US 30

STA. 2761+67.36  
END SHOULDER CONSTRUCTION

88  
86

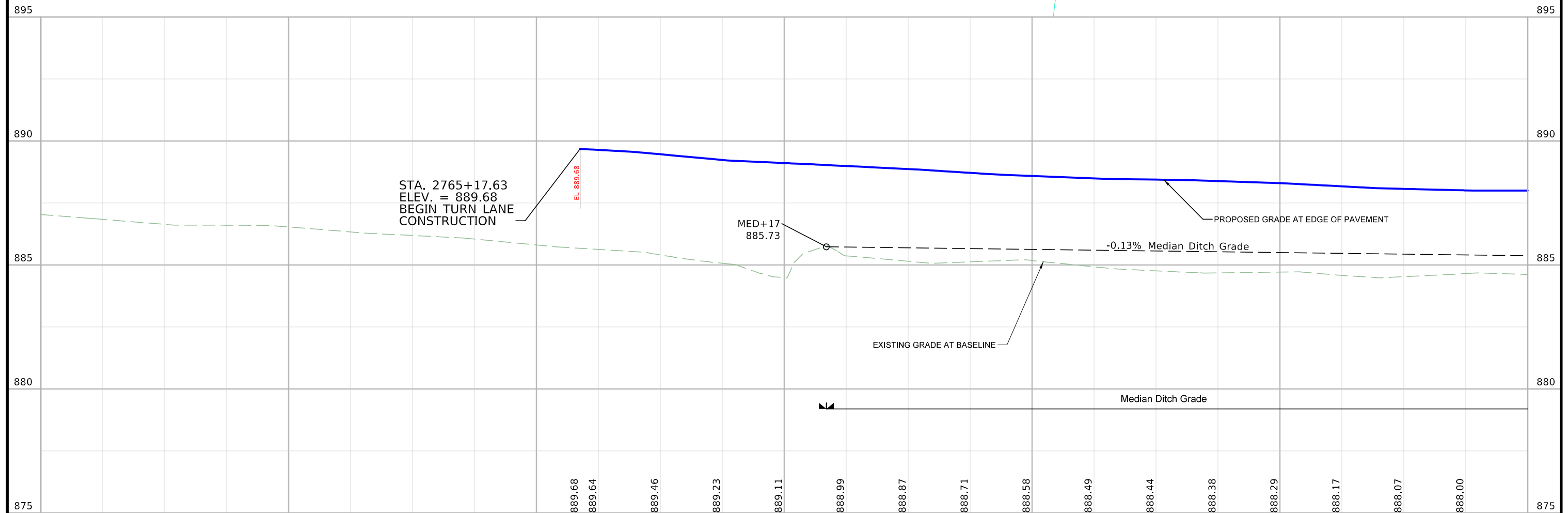
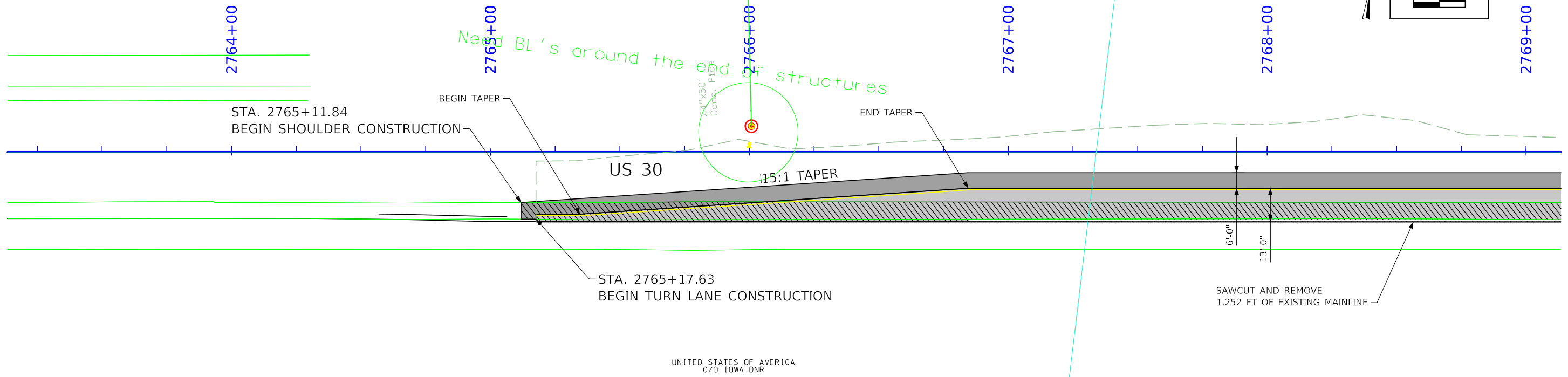
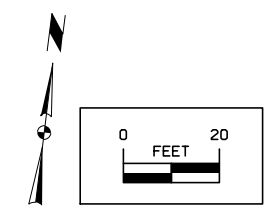
UNITED STATES OF AMERICA  
C/O IOWA DNR

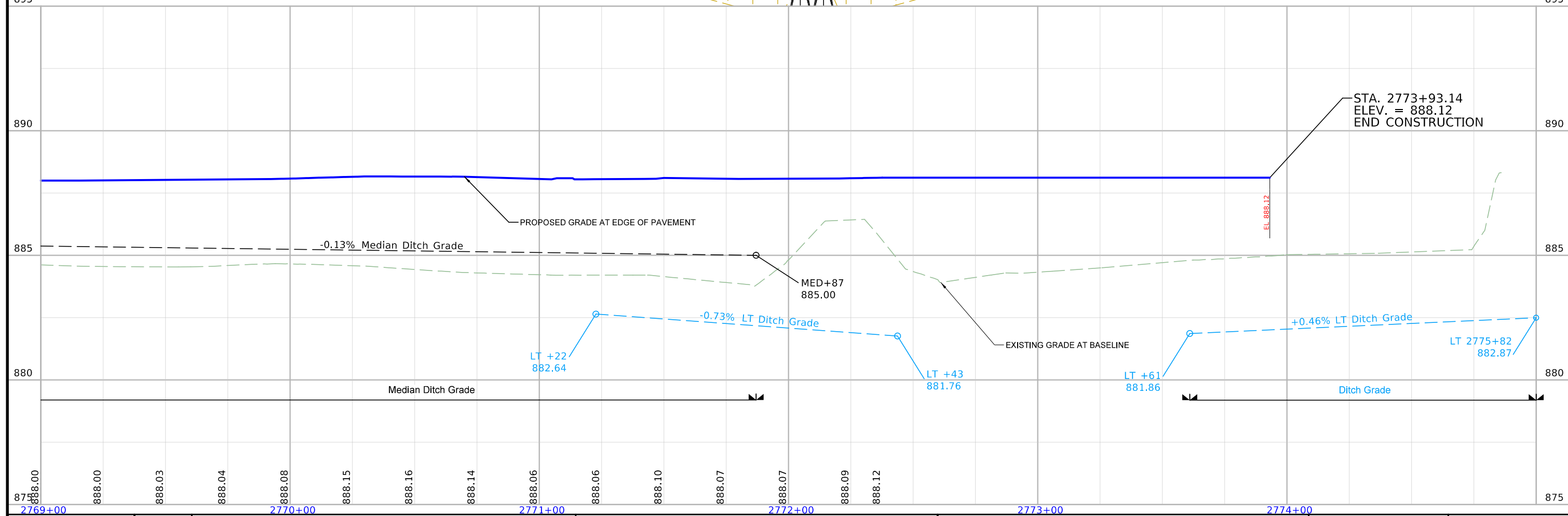
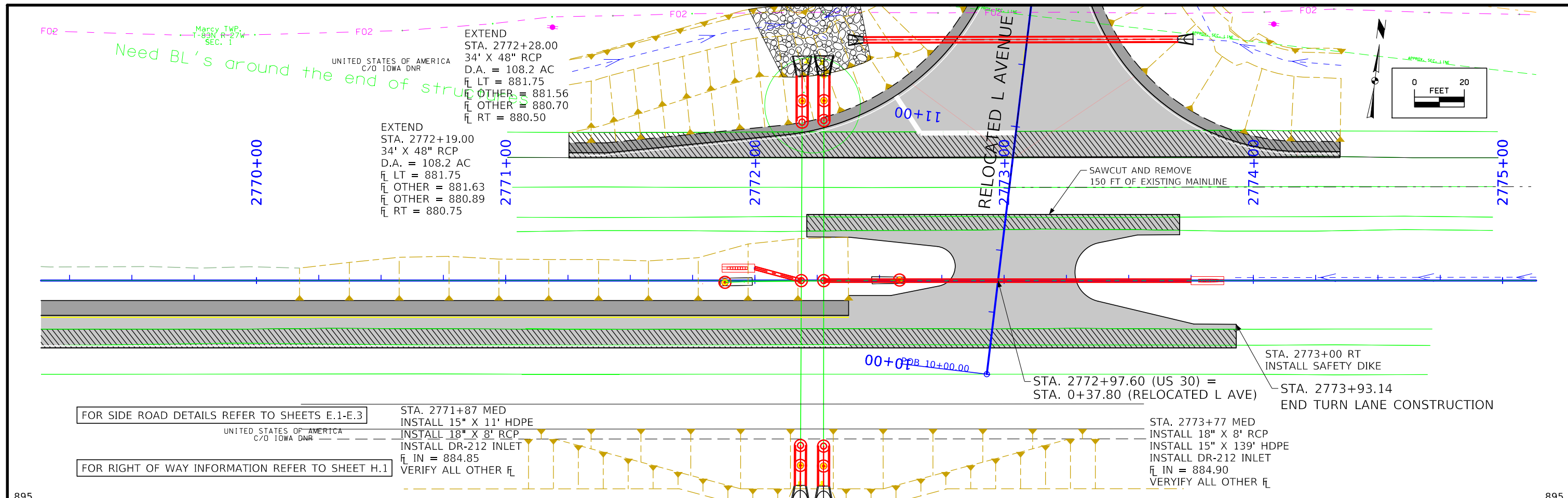


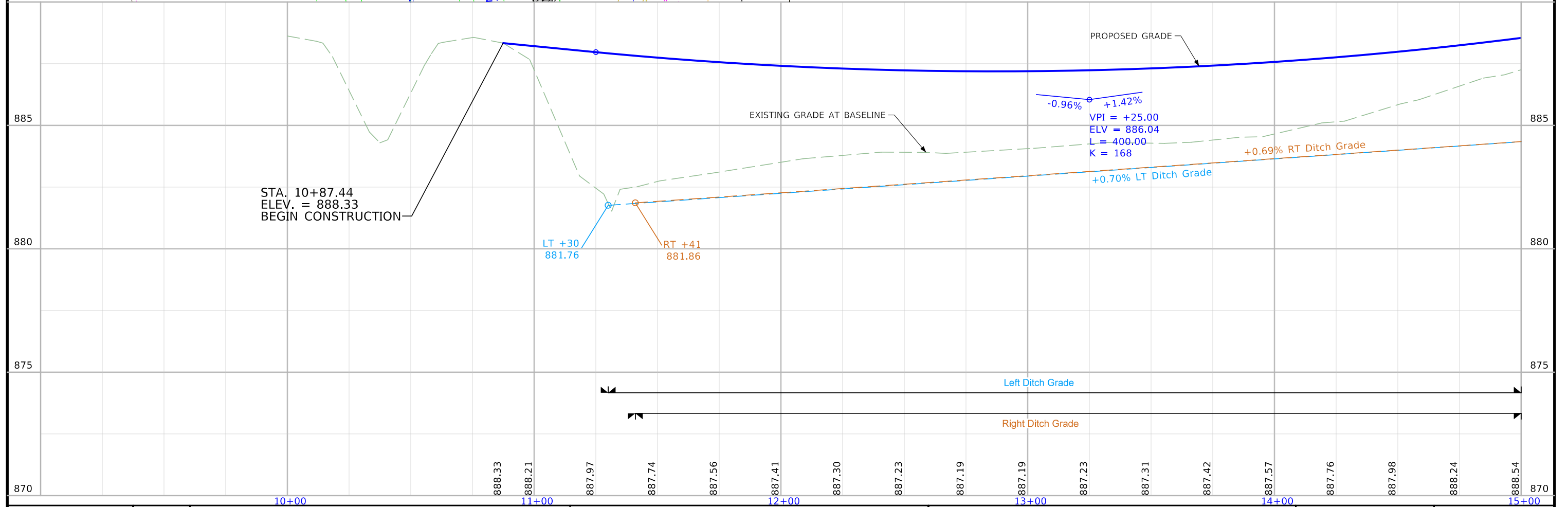
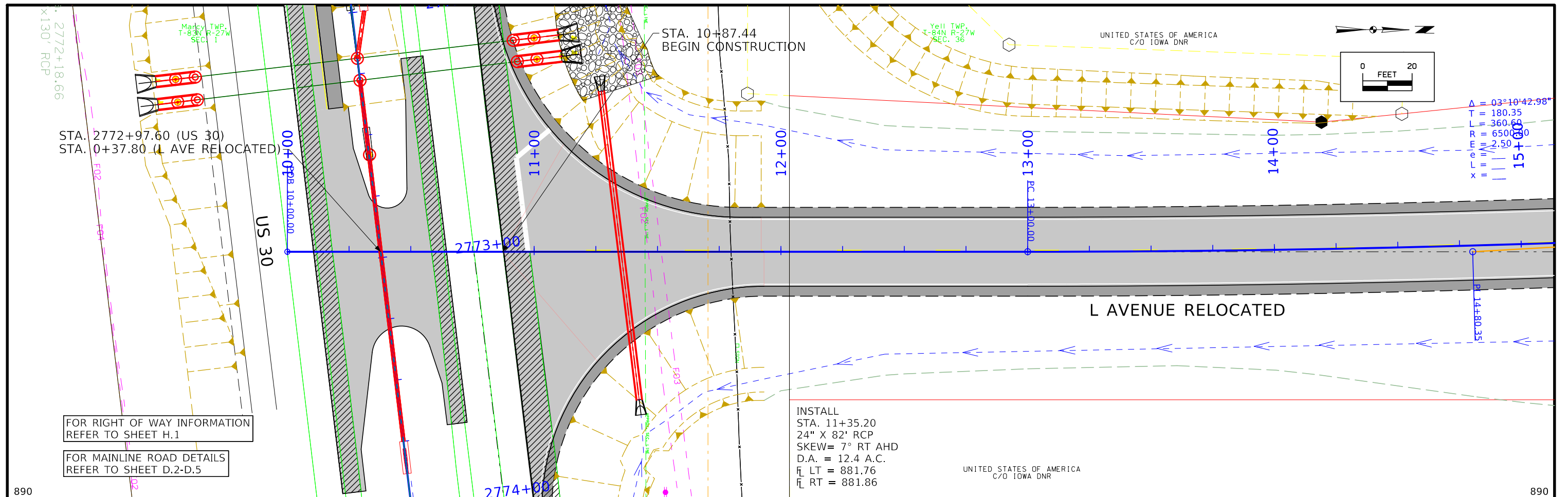
Marcy TWP.  
T-83N R-27W  
SEC. 1

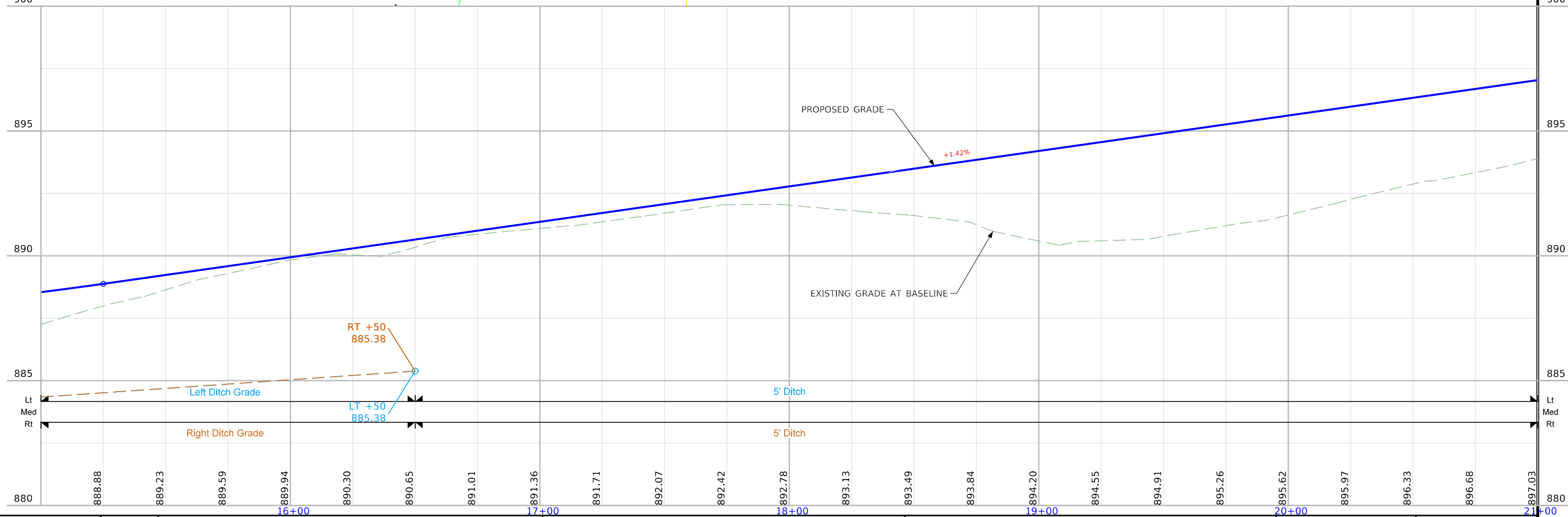
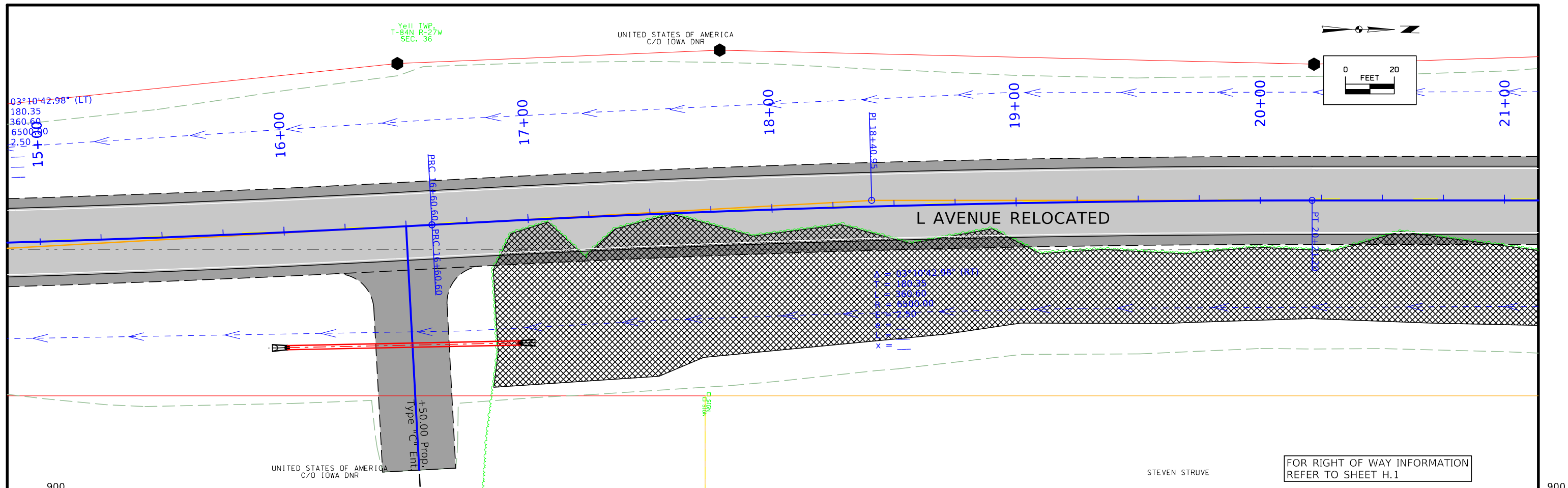
UNITED STATES OF AMERICA  
C/D IOWA DNR

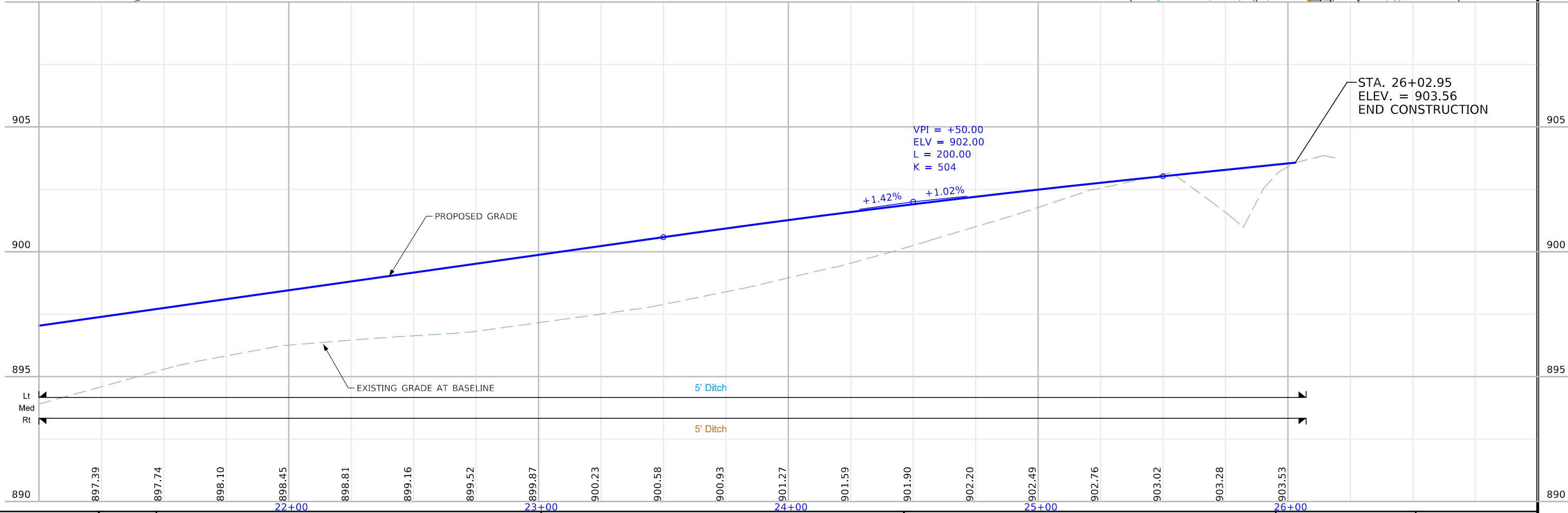
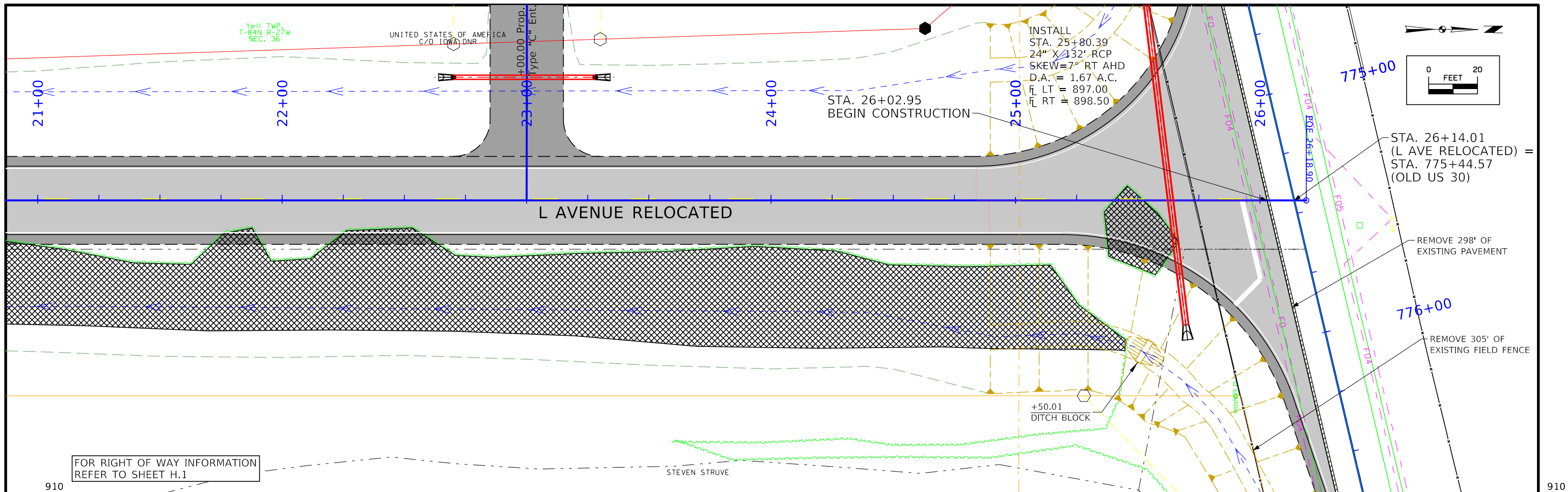
STA. 2766+00.04 WBL  
24" RCP  
(UAC)

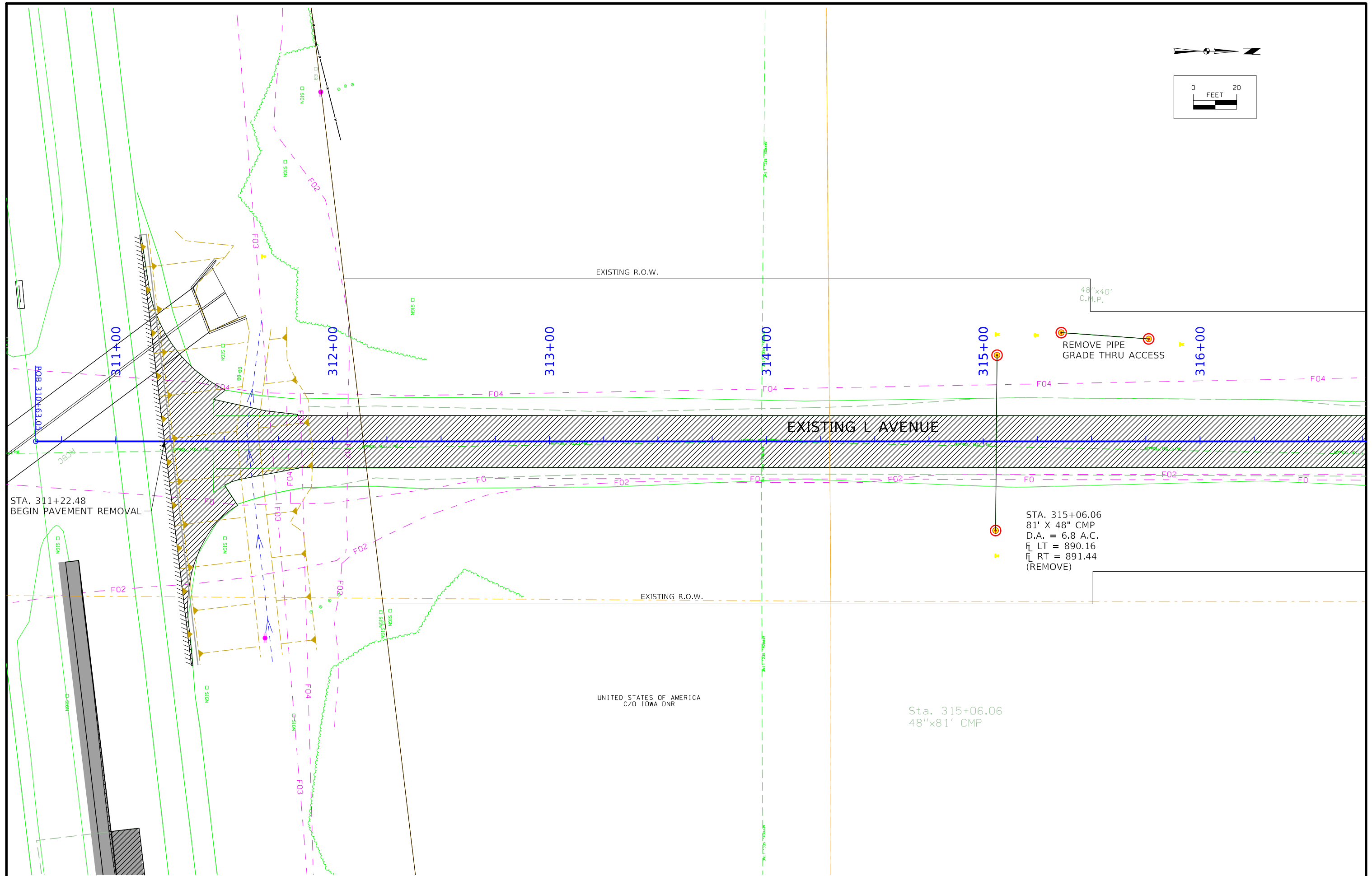
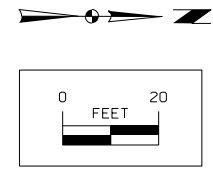


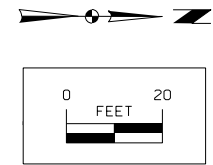












WALTER C. JENKINS JR.

EXISTING R.O.W.

317+00

318+00

319+00

320+00

321+00

322+00

F04

F04

F04

F04

F04

F04

EXISTING L AVENUE

F02

F02

F02

F02

F02

F02

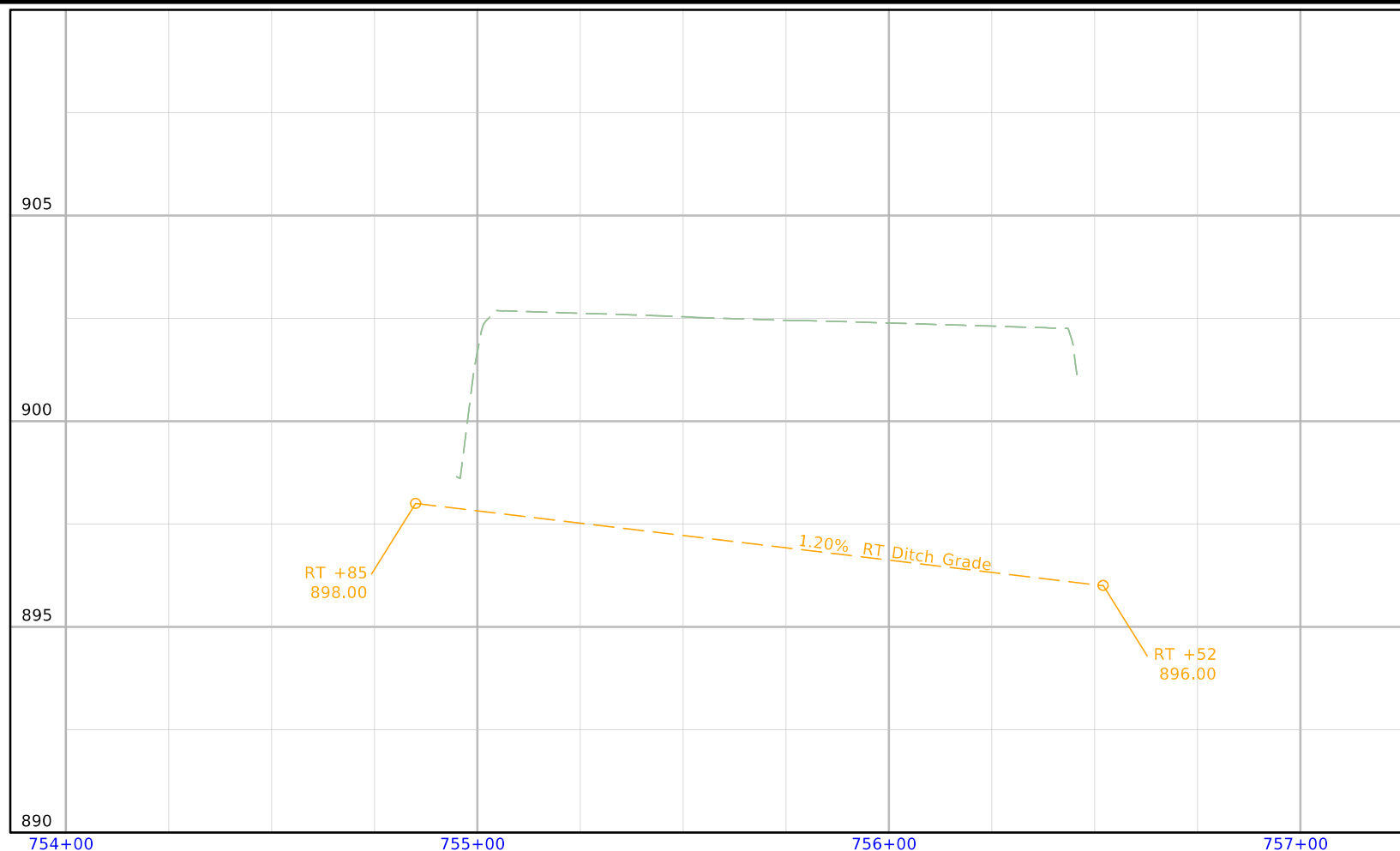
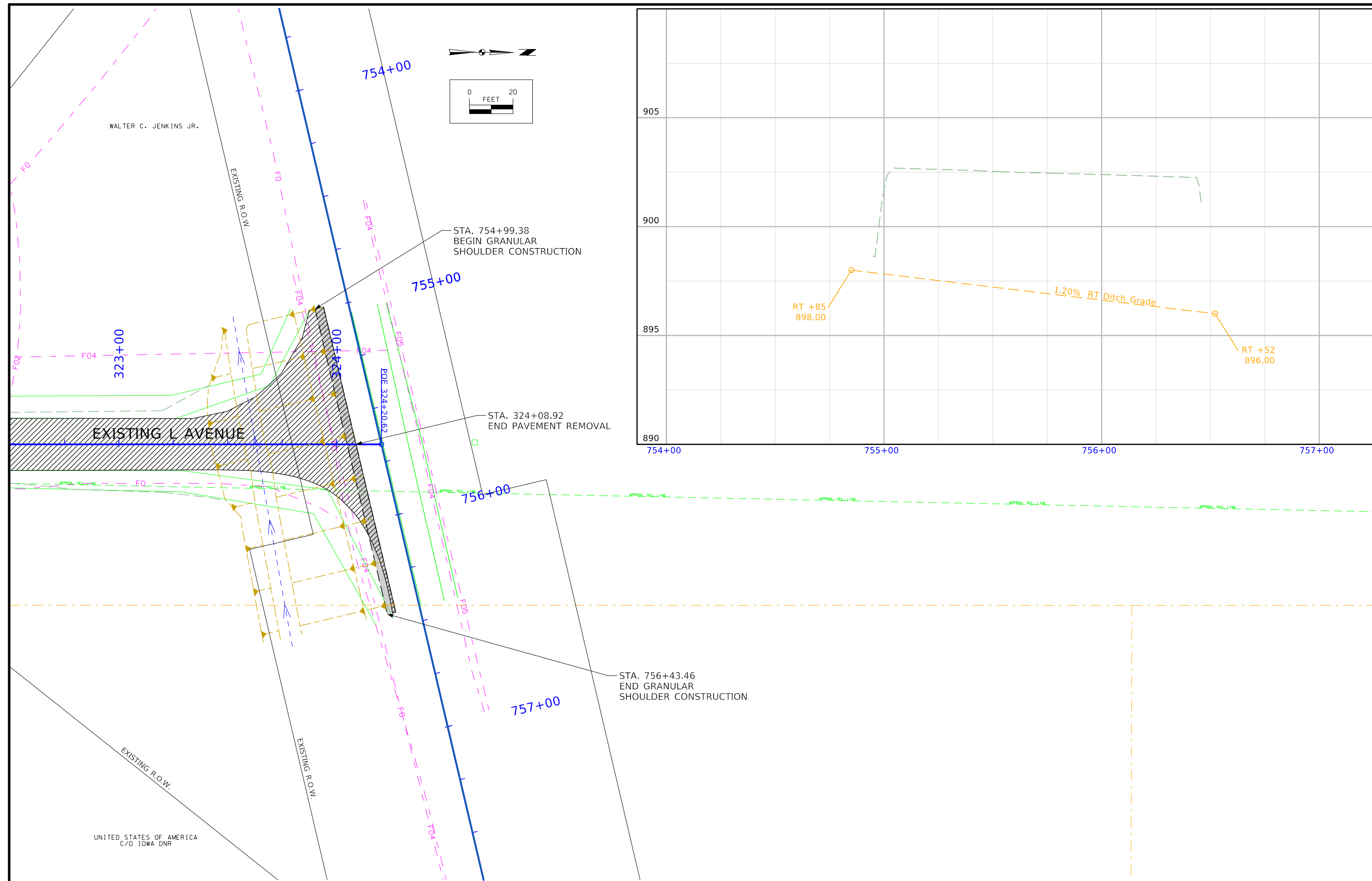
F02

F02

EXISTING R.O.W.

UNITED STATES OF AMERICA  
C/O IDWA DNR





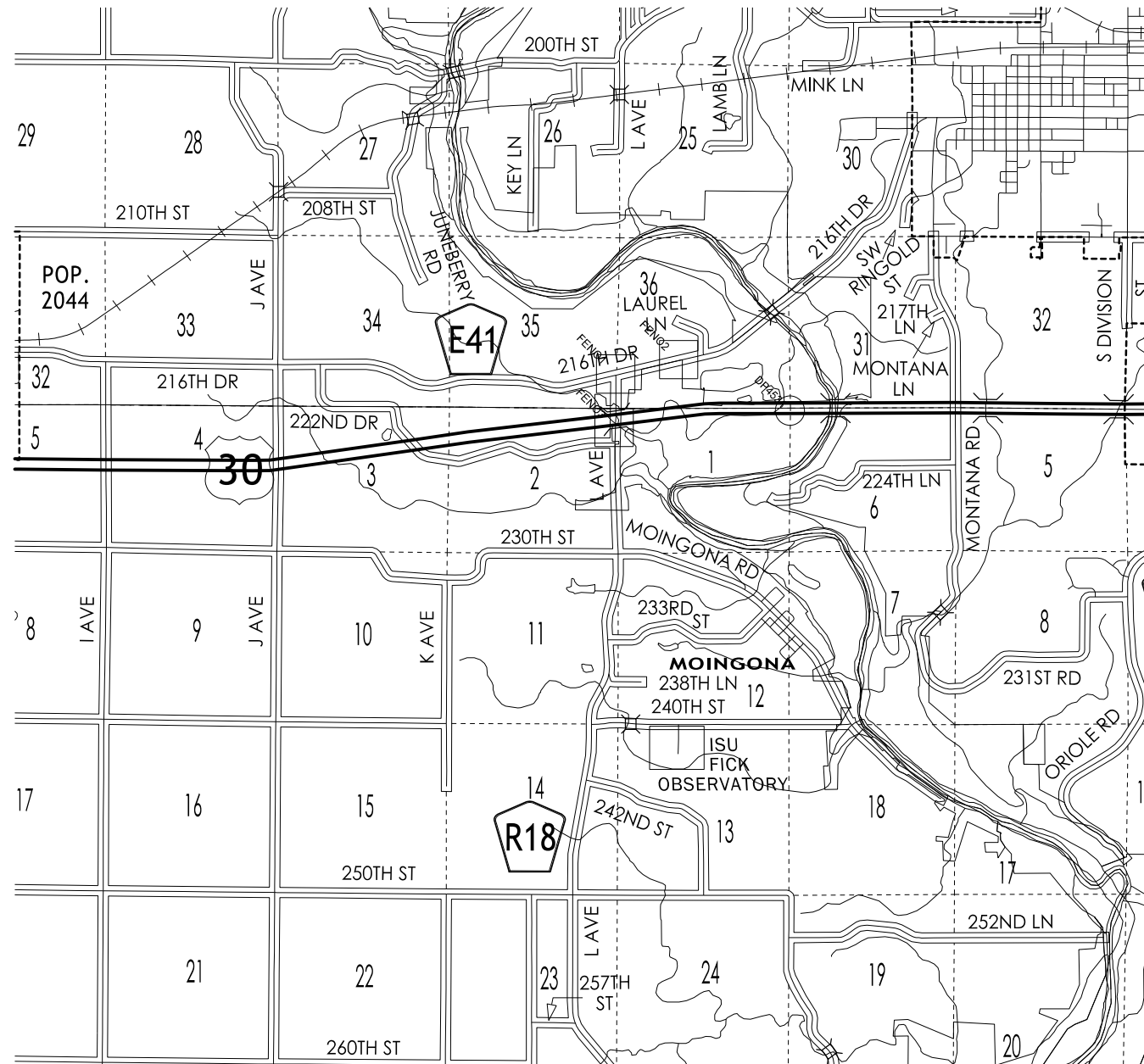
# Survey Information

## SURVEY SYMBOLS

	FENO FENO Monument
	BM Bench Mark
	WC Wild Card (Misc. Field Shot)
	WL1D Water Line Co. 1 - Quality D
	UB Utility Box
	SI Sign
	MIS Miscellaneous
	PPA Power Pole Co. 1
	PR Electric Riser Pole
	SL Speed Limit Sign
	GH1D High Pres Gas Co 1 - Quality D
	GL1D Gas Line Co. 1 - Quality D
	MH Utility Access (Manhole)
	TL2D Telephone Line Co. 2 - Quality D
	WL2D Water Line Co. 2 - Quality D
	EL1D Electric Line Co. 1 - Quality D
	EB Electrical Box
	TCB Traffic Signal Box
	LUM Luminaire
	WV Water Valve
	TL3D Telephone Line Co. 3 - Quality D
	GL2D Gas Line Co. 2 - Quality D
	FHD Fire Hydrants
	TL4D Telephone Line Co. 4 - Quality D
	BL Topo Breakline
	EG Edge of Gravel Road
	C Centerline BL of Road (ML or SR)
	GR Ground Shot
	TLNR Tree Line Right
	SNP Unpaved Shoulder
	D Centerline Draw or Stream (Down)
	TDC Tree Deciduous
	FCL Chain Link and Security Fence
	TEV Evergreen Tree
	TLNL Tree Line Left
	RIP Rip-Rap
	GDL Guard Rail Steel
	EP Edge of Paved Roads (ML or SR)
	PIP Pipe Culvert
	PRO Profile Shot
	PLG Location of General Photo
	CU Back of Curb
	GU Gutter In Front of Curb
	OUT Tile Outlet
	EL2D Electric Line Co. 2 - Quality D
	CON Concrete or A/C Slab
	WHU RV Water Hook Up
	FW Wire Fence
	GP Guard Post (Less Than 4 Posts)
	TVP TV Pedestal
	ENP Edge Paved Entrance & Park Lot
	FO1D Fiber Optic Co. 1 - Quality D
	TL1D Telephone Line Co. 1 - Quality D
	LC Lot Corner
	TPD Telephone Pedestal
	LIN Miscellaneous Line
	UPH Utility Pot Hole - Quality A
	IN Storm Sewer Intake
	UE Utility Elevation
	BRG Bridge
	BD Bridge Deck
	BCL Bridge Centerline
	CUL Culvert
	GDC Guard Rail Cable
	BLD Building or Foundation
	RET Retaining Walls
	EW Edge of Water
	SOP Size of Pipe or Culvert

## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 8

Coordinate listing from next sheet will be used with 1aRTN for monument recovery. No other reference ties are given.

# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

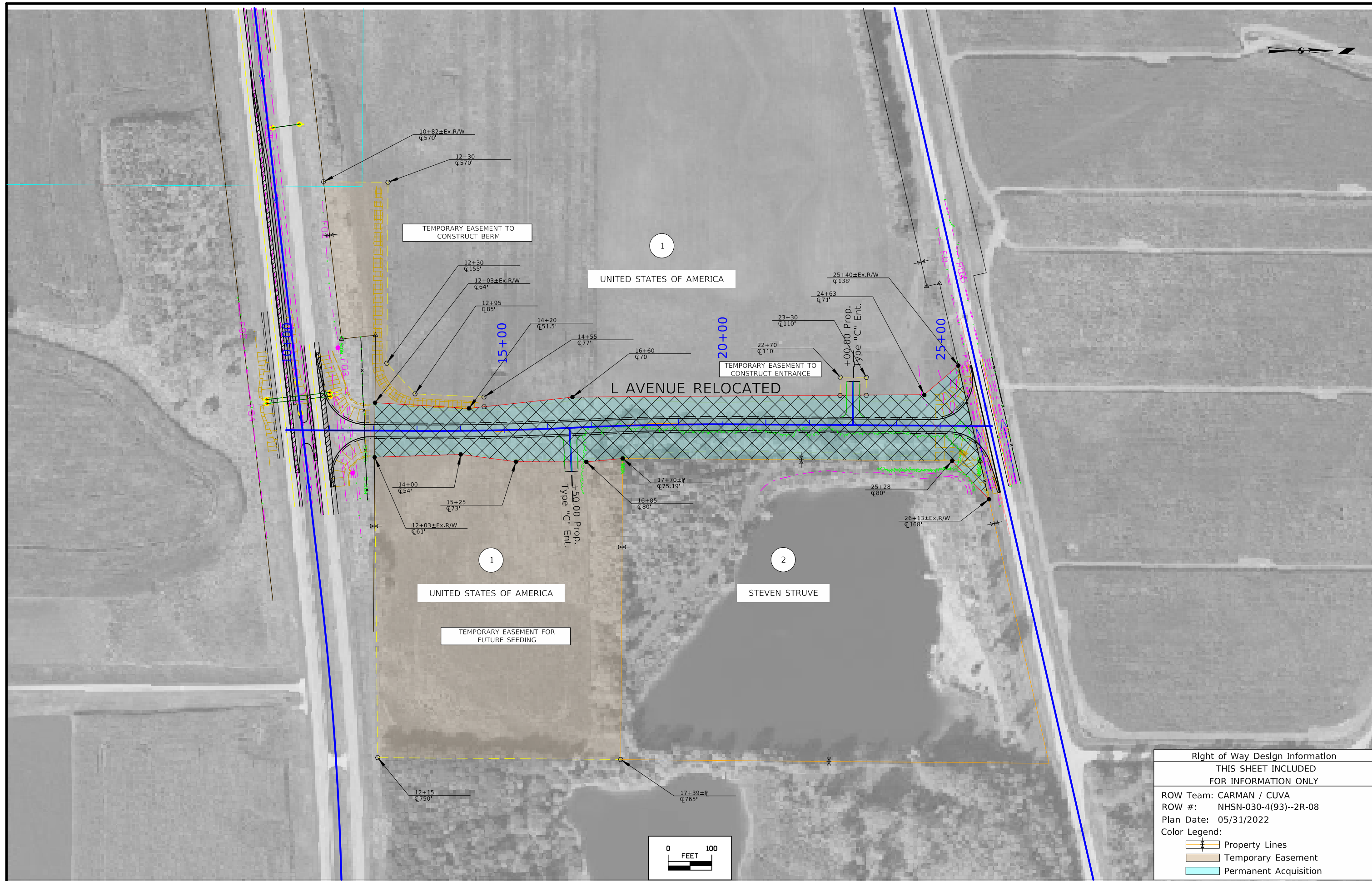
HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

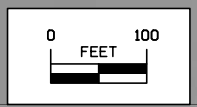
Ia. Regional Coordinate System Zone 8

Point Name	Y	X	Z	Feature Definition - Description
DP4531	7650281.70	18441738.77	886.12	CP FOUND 2 1/2IN DISK SET IN CONCRETE//30FT +/- SOUTH OF EBL HWY 30//12FT +/- WEST OF GRAVEL DRIVE/M AVE EXTENDED SOUTH 80FT +/- EAST OF DO NOT ENTER SIGN
FENO1	7651406.31	18436386.74	899.26	FENO SET FENO MONUMENT IN CENTERLINE OF L AVE EXTENDED NORTH//40FT +/- NORTH OF CENTERLINE OF 216TH DRIVE 20FT +/- SW OF TELEPHONE PEDESTAL//6FT +/- SE OF 216TH DR/L AVE SIGN//4FT +/- SW OF RIGHT LEFT SIGN
FENO2	7651845.54	18438322.47	902.75	FENO SET FENO MONUMENT 20FT +/- NORTH OF CENTERLINE OF 216TH DRIVE//15FT +/- SOUTH OF EAST WEST FENCE//12FT +/- SOUTH OF TELEPHONE PEDESTAL//NORTH OF TREELINE
FENO3	7649762.97	18436339.00	895.75	FENO SET FENO MONUMENT 40FT +/- WEST OF CENTERLINE OF L AVE//150FT +/- SOUTH OF CENTERLINE OF HIGHWAY 30//SOUTH SIDE GRAVEL DRIVE//40FT +/- EAST OF GAS PIPELINE SIGN

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.












Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CARMAN / CUVA	
ROW #: NHSN-030-4(93)--2R-08	
Plan Date: 05/31/2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



**CROSS SECTION VIEW COLOR LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

**CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**





















	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

**PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS**

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

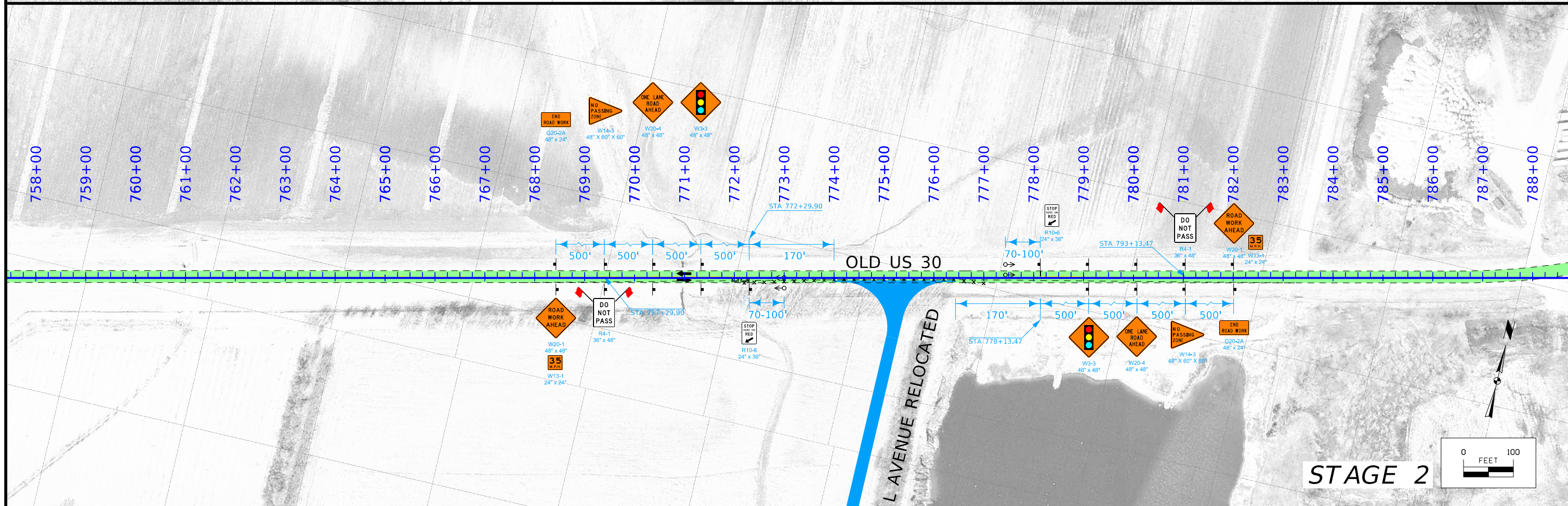
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

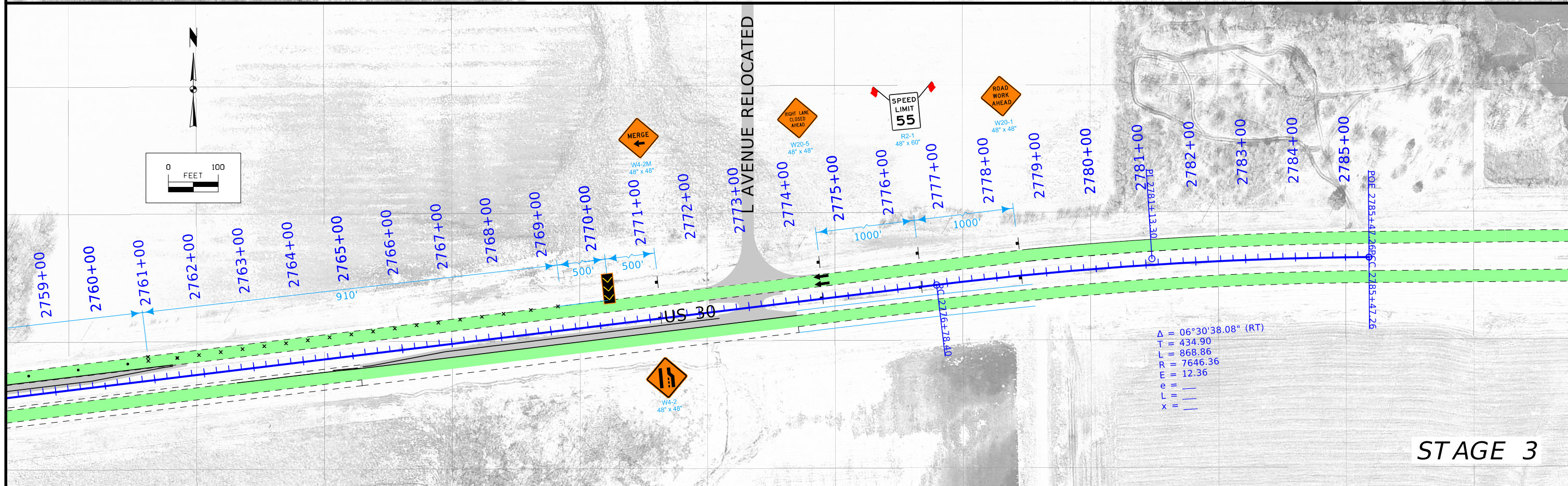
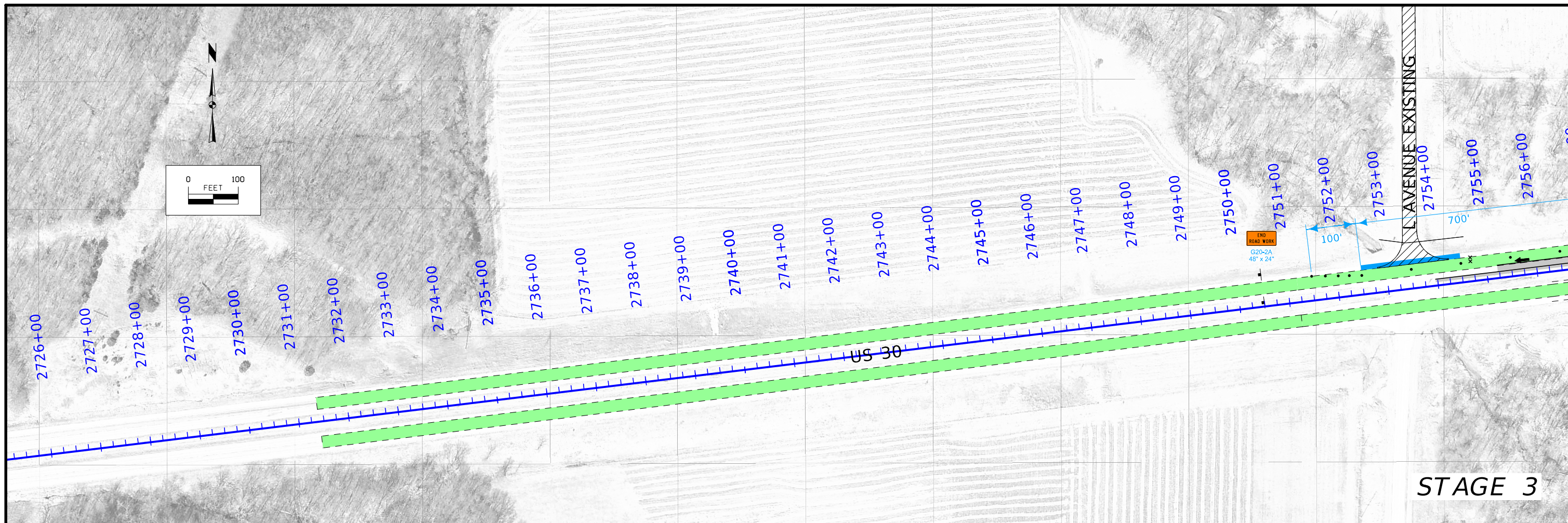
**TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET**

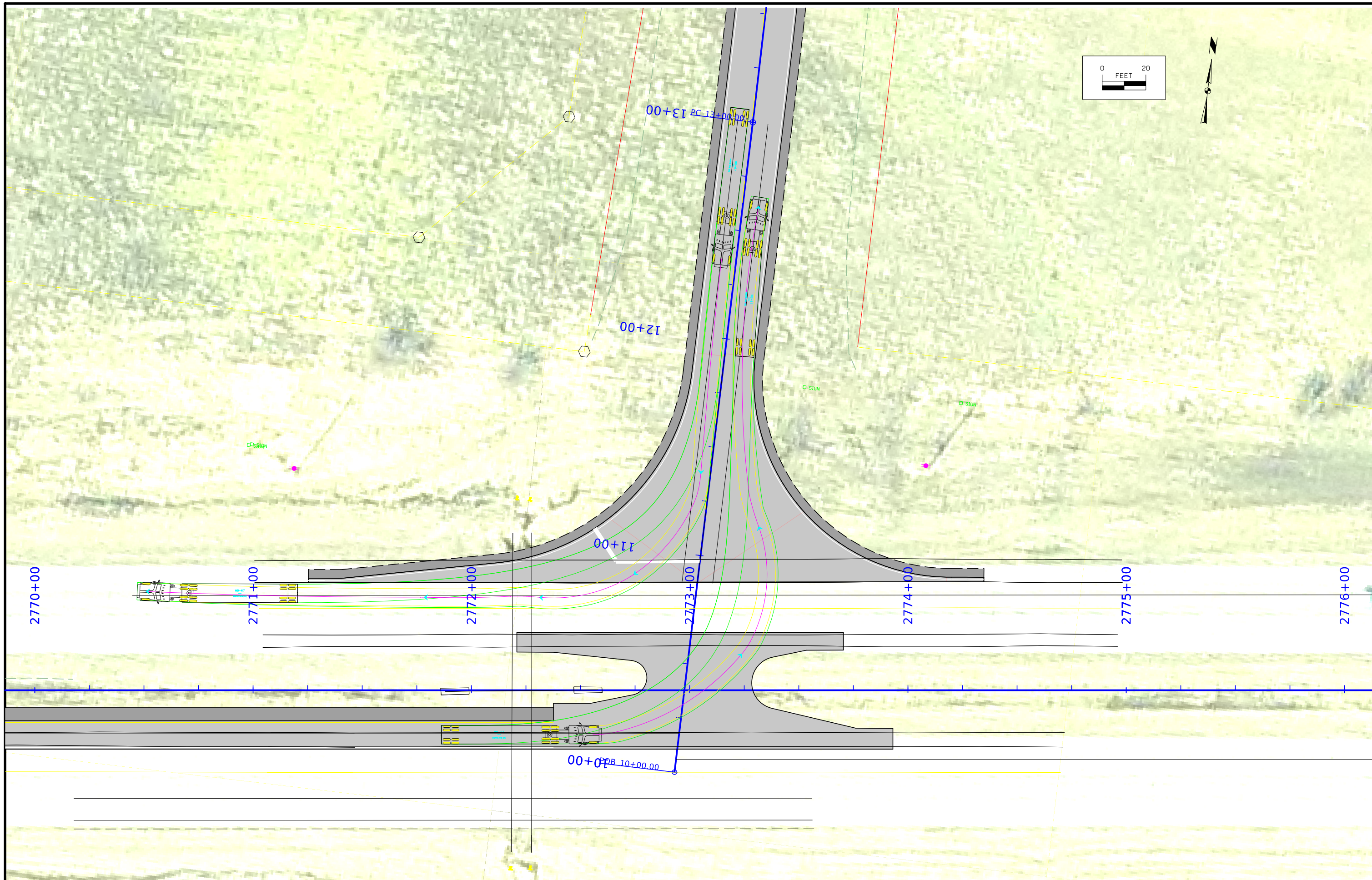
(COVERS SHEET SERIES J)

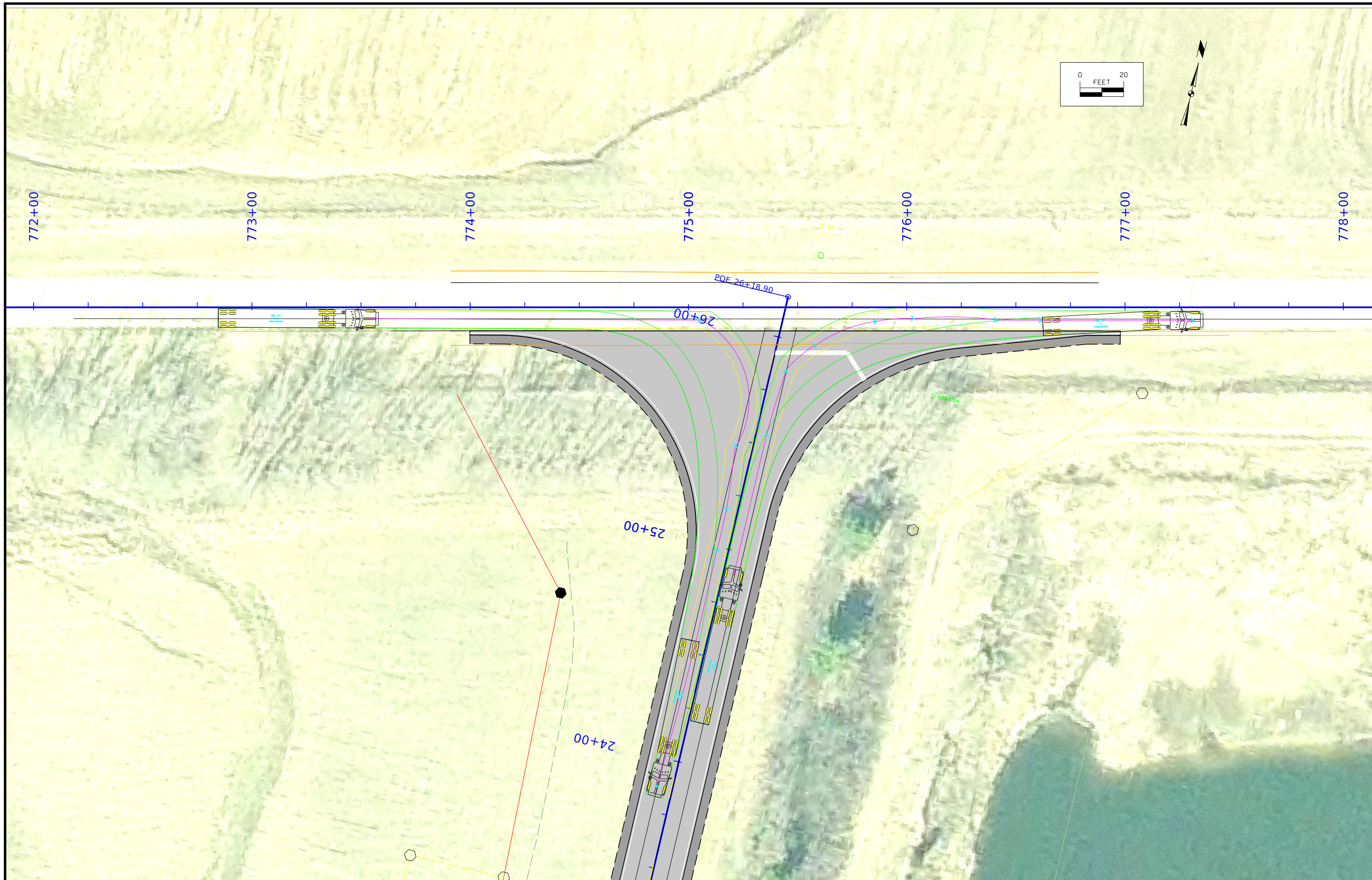


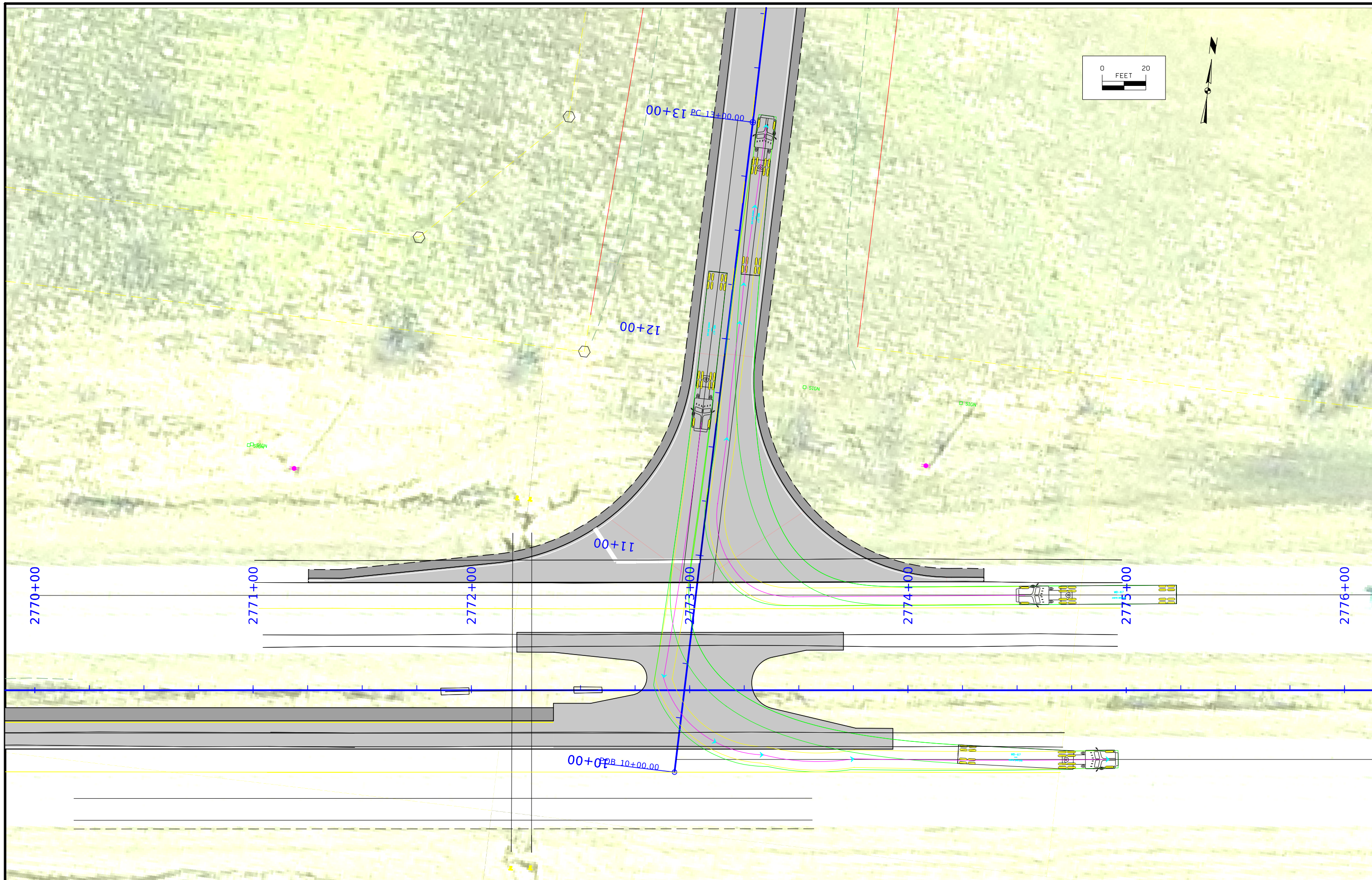


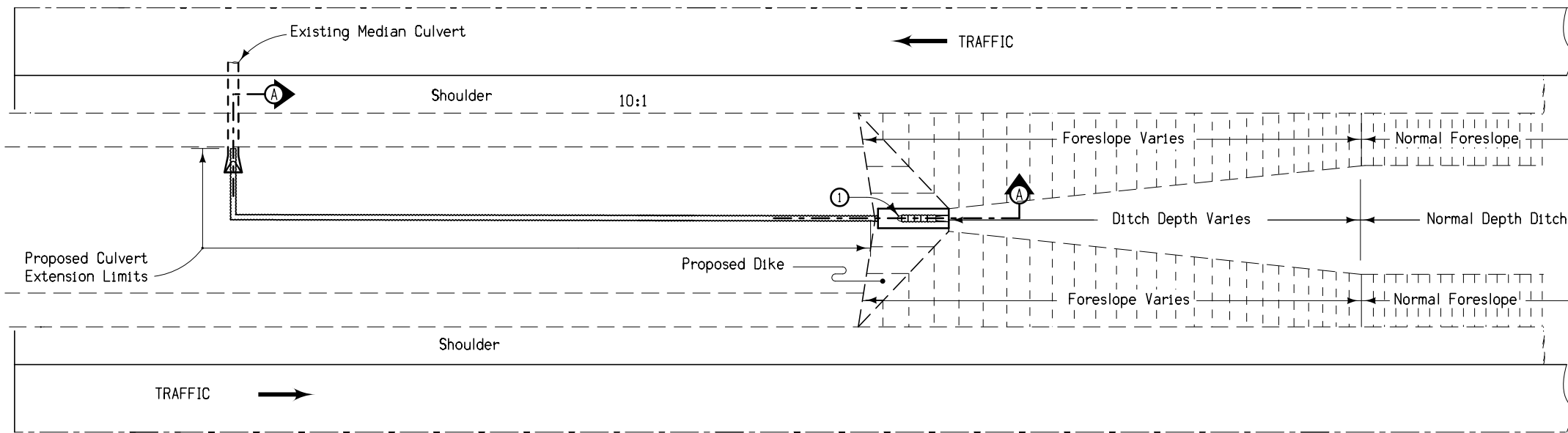




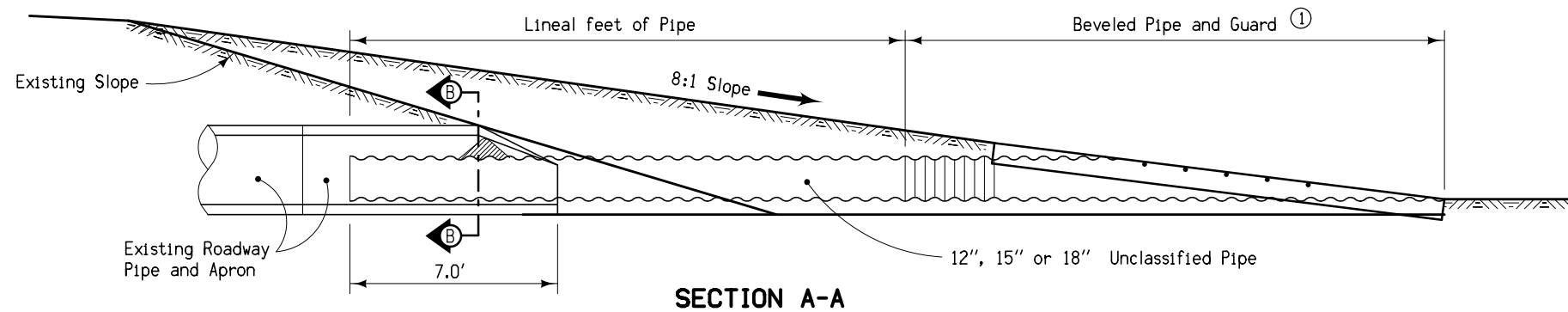




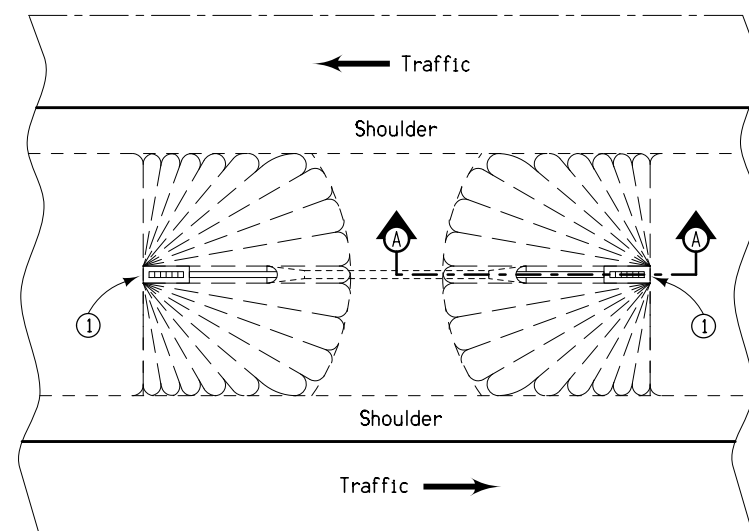




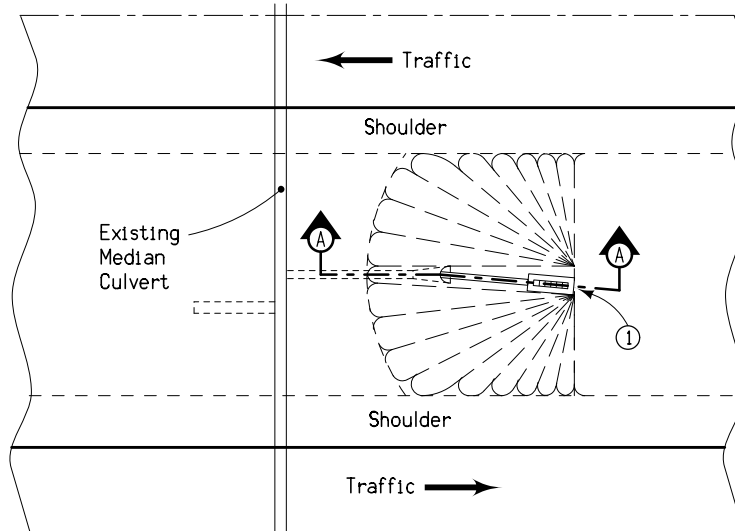
**CASE 'A'**  
Guardrail Installation between Dual Bridges



**SECTION A-A**



**CASE 'B'**  
Maintenance Turnaround



**CASE 'C'**  
Median Culvert

Construct the extension by placing the appropriate size of Unclassified Pipe into the existing culvert and apron. After the Unclassified pipe has been assembled at the proper angle and placed into the culvert, some adjusting may be required by rotating the Unclassified Pipe to fit the new flow line. Seal the area between the existing apron and Unclassified Pipe with concrete.

Construct the extension using Class 'C' concrete.

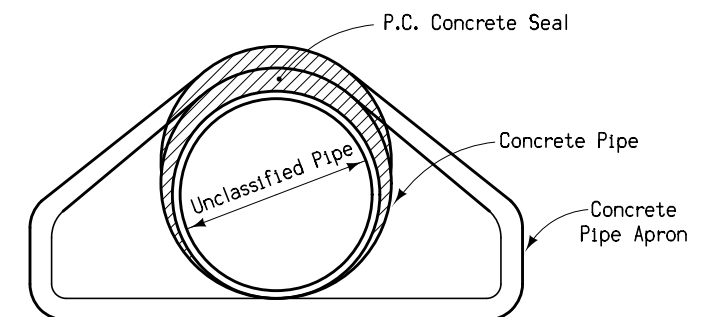
Excavating silt for pipe placement is incidental to pipe items.

Place a silt fence ditch check immediately upstream from the inlet of the culvert. See EC-201 for construction details.

① For details of Beveled Pipe and Guard, see DR-212.

Contract Items:

- Unclassified Roadway Pipe
- Beveled Pipe and Guard

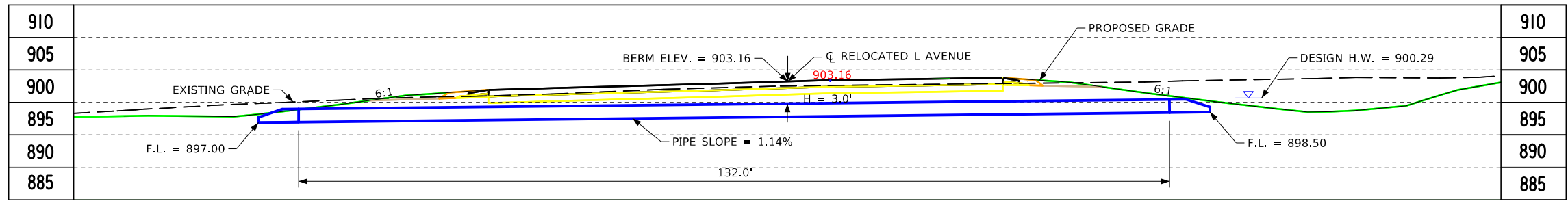


**SECTION B-B**

<b>ROAD DESIGN DETAIL</b>	REVISION	
	6	10-20-15
	<b>500-6</b>	
SHEET 1 of 1		

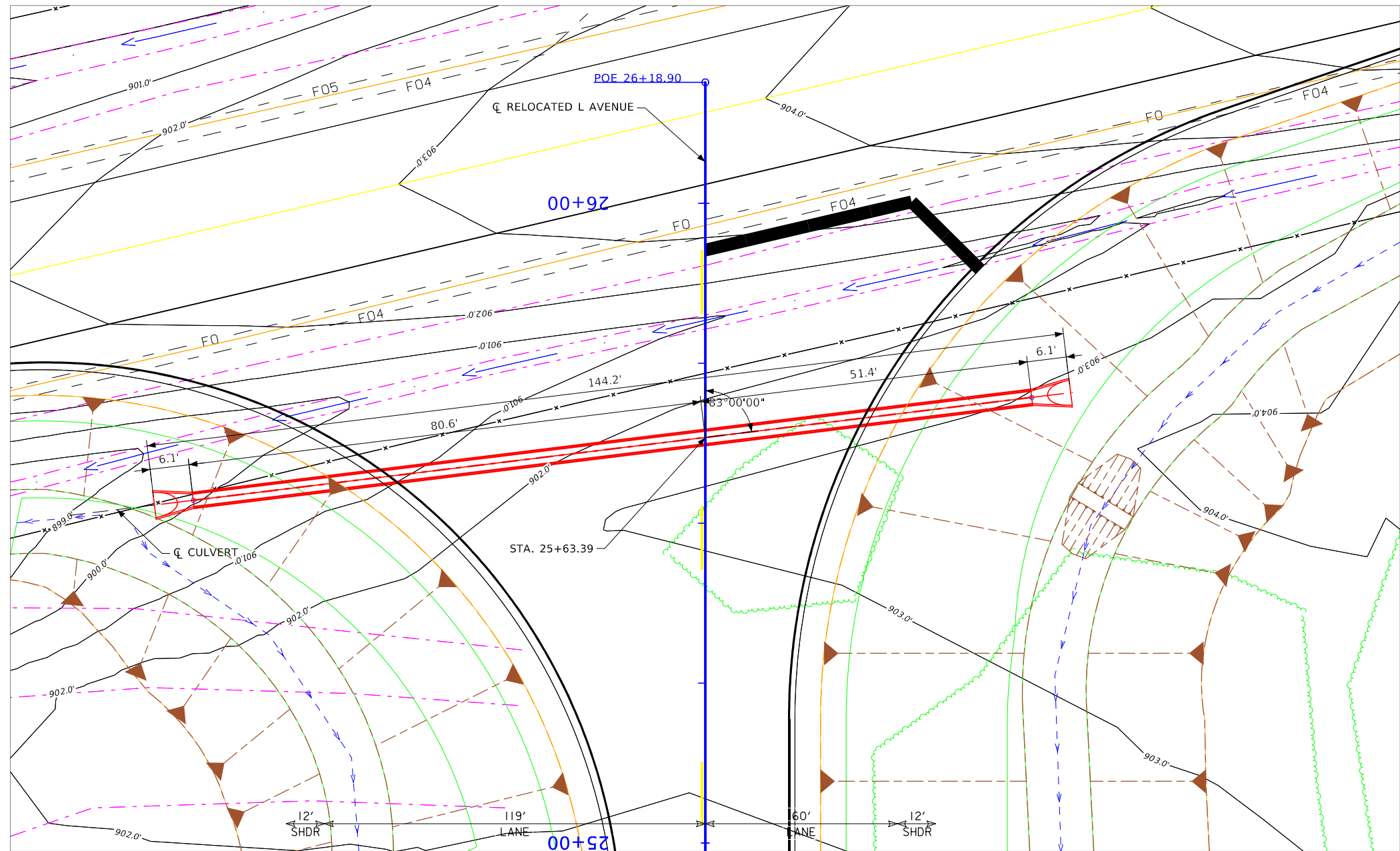
REVISIONS: Changed the reference from RF-27 to DR-212. Updated DOT logo. Revised general notes.

**MEDIAN CULVERT EXTENSIONS  
WITH BEVELED PIPE AND GUARD**



LONGITUDINAL SECTION ALONG CL CULVERT

FENO1 FENO MONUMENT, NORTHING=7651406.31,  
EASTING=18436386.74, MONUMENT ELEVATION=899.26  
NOTE: STATION AND OFFSET BASED ON RELOCATED  
L AVENUE CENTERLINE



PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.1

HYDRAULIC DATA

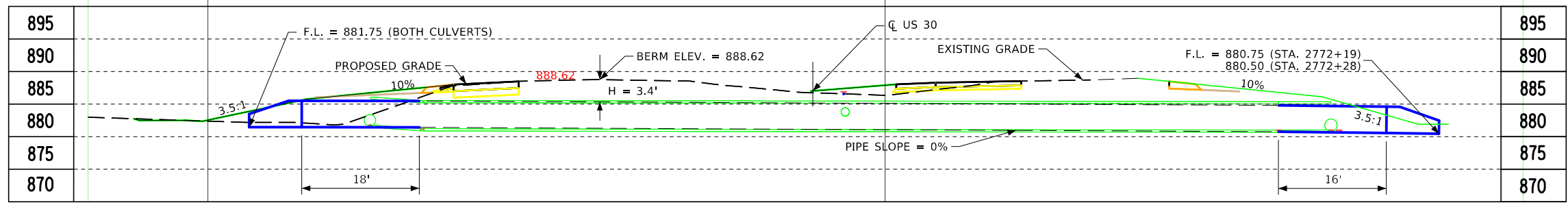
DRAINAGE AREA = 1.67 ACRES F & TILED  
DESIGN DISCHARGE,  $Q_{50} = 4.0$  CFS  
DESIGN HIGH WATER = 901.20

LOCATION

RELOCATED L AVENUE  
T-83N R-27W  
SECTIONS X  
MARCY TOWNSHIP  
BOONE COUNTY

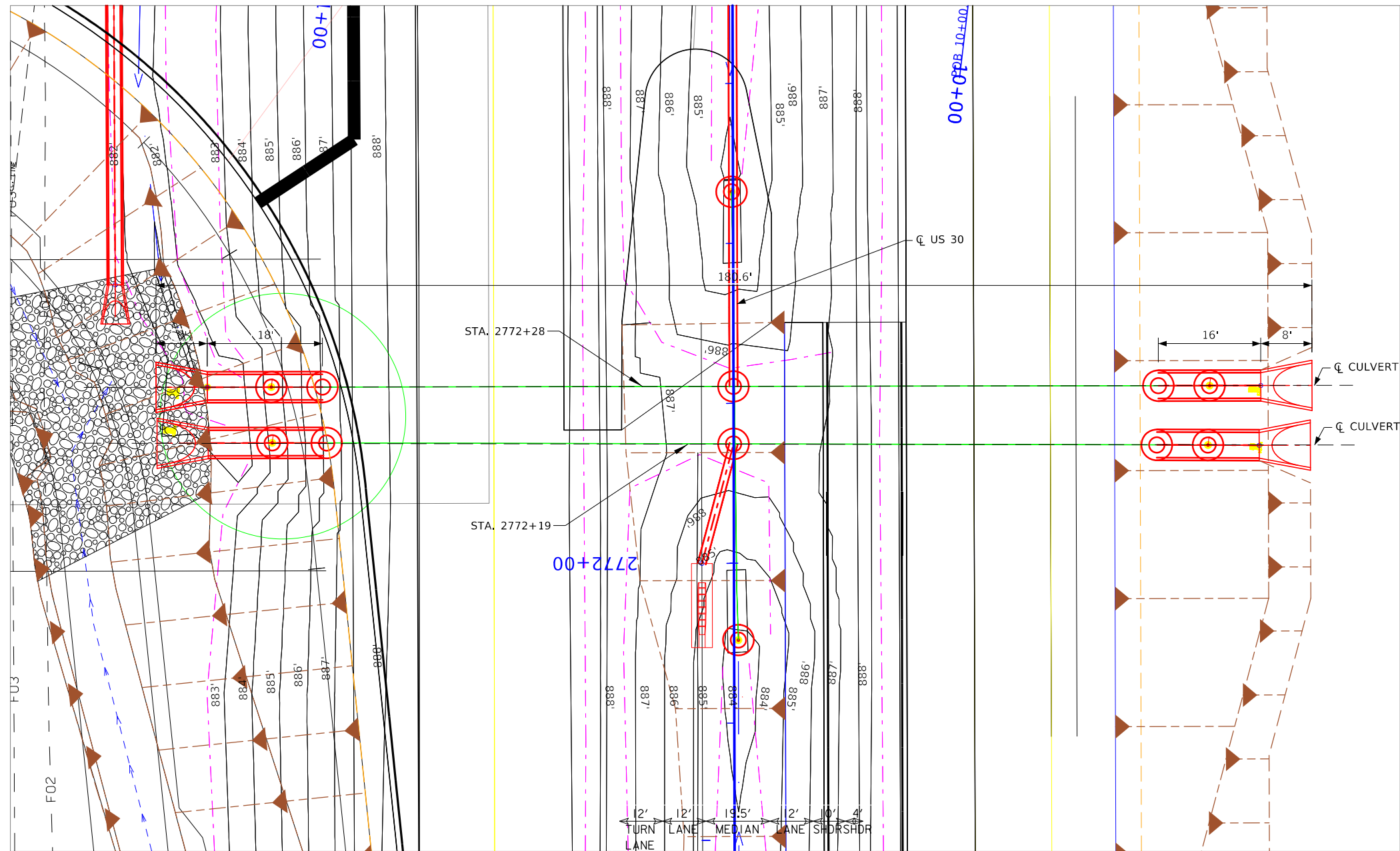


DESIGN FOR 15° SKEW RT. AHEAD  
**24" X 138'**  
**REINFORCED CONCRETE PIPES**  
**PLAT PLAN**  
STA. 25+63.39 CL Relocated L Avenue APRIL 2022  
**BOONE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO.    OF    FILE NO.   XXXXX   DESIGN NO.



LONGITUDINAL SECTION ALONG CL CULVERT

FENO1 FENO MONUMENT, NORTHING=7651406.31,  
EASTING=18436386.74, MONUMENT ELEVATION=899.26  
NOTE: STATION AND OFFSET BASED ON US 30  
SURVEY CENTERLINE



PLAT PLAN

UTILITIES LEGEND:

REFER TO D.1

HYDRAULIC DATA

DRAINAGE AREA = 282 ACRES F & TILED



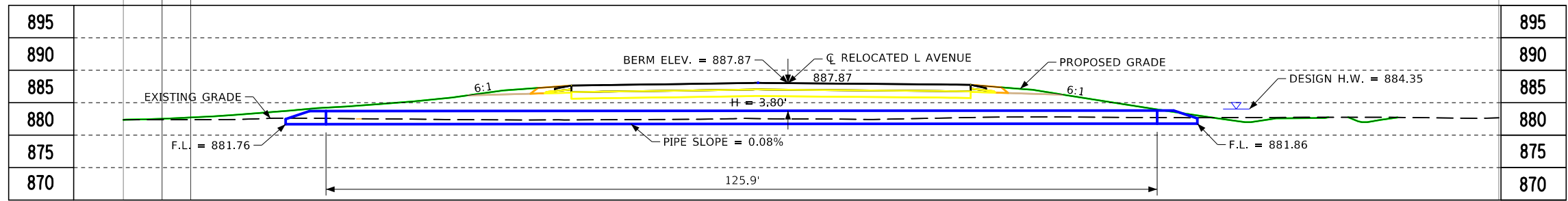
LOCATION

US 30  
T-83N R-27W  
SECTIONS 1  
MARCY TOWNSHIP  
BOONE COUNTY



DESIGN FOR 0° SKEW  
**48" X 34'**  
**REINFORCED CONCRETE PIPE**  
**EXTENSION**  
**PLAT PLAN**  
 STA. 2772+19 CL US 30 STA. 2772+28 CL US 30 FEBRUARY 2022  
**BOONE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO.    OF    FILE NO.   XXXXX   DESIGN NO.

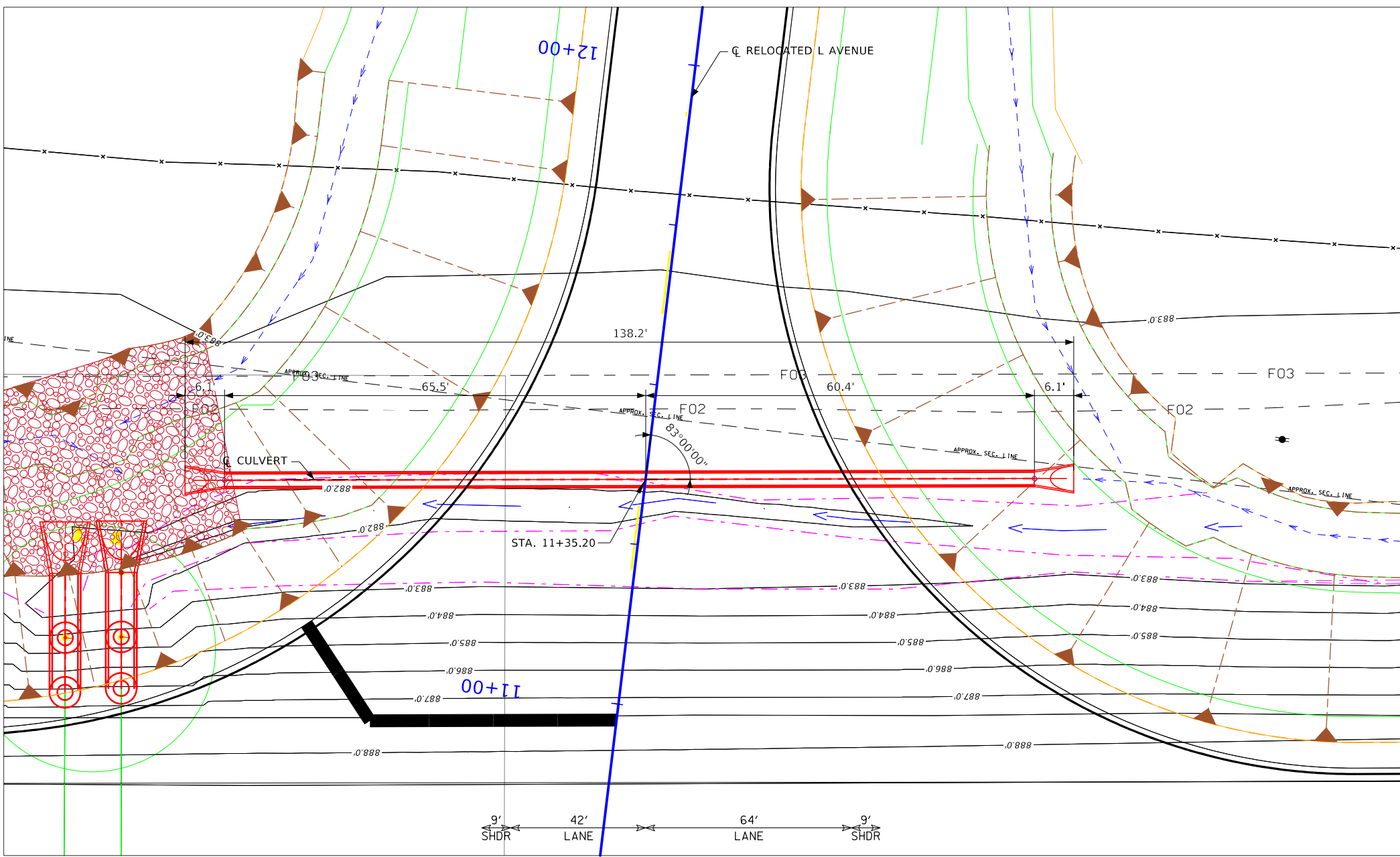




LONGITUDINAL SECTION ALONG CL CULVERT

FENO1 FENO MONUMENT, NORTHING=7651406.31,  
EASTING=18436386.74, MONUMENT ELEVATION=899.26

NOTE: STATION AND OFFSET BASED ON RELOCATED  
L AVENUE CENTERLINE



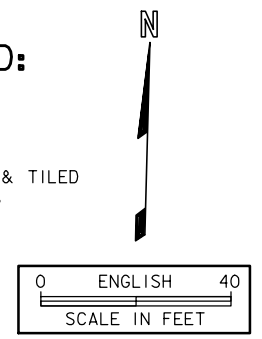
PLAT PLAN

**UTILITIES LEGEND:**  
REFER TO D.1

**HYDRAULIC DATA**  
DRAINAGE AREA = 13.06 ACRES F & TILED  
DESIGN DISCHARGE,  $Q_{50}$  = 20.5 CFS  
DESIGN HIGH WATER = 884.35

**LOCATION**

RELOCATED L AVENUE  
T-83N R-27W  
SECTIONS X  
MARCY TOWNSHIP  
BOONE COUNTY

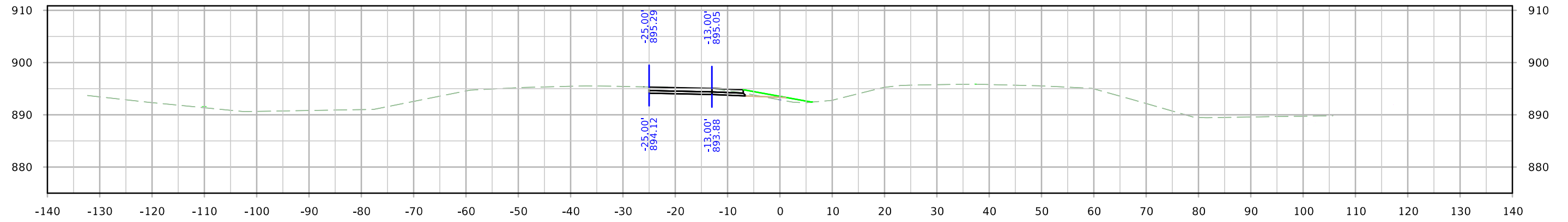


DESIGN FOR 13° SKEW XX. AHEAD

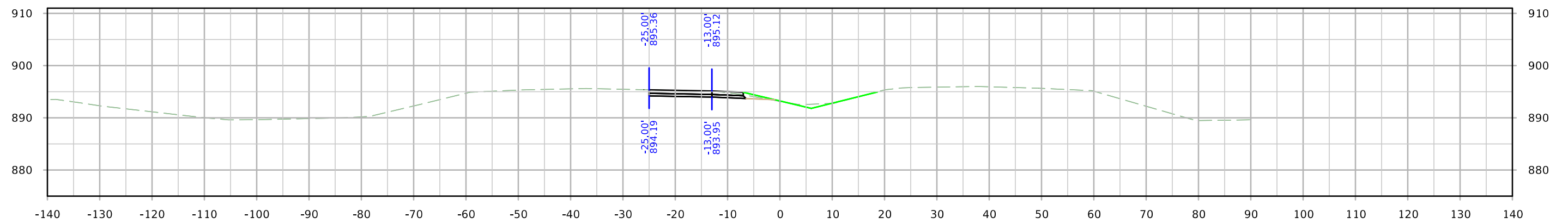
**24" X 82'**  
**REINFORCED CONCRETE PIPES**

**PLAT PLAN**  
STA. 11+35.20 CL Relocated L Avenue APRIL 2022  
**BOONE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO.    OF    FILE NO. XXXXX DESIGN NO.

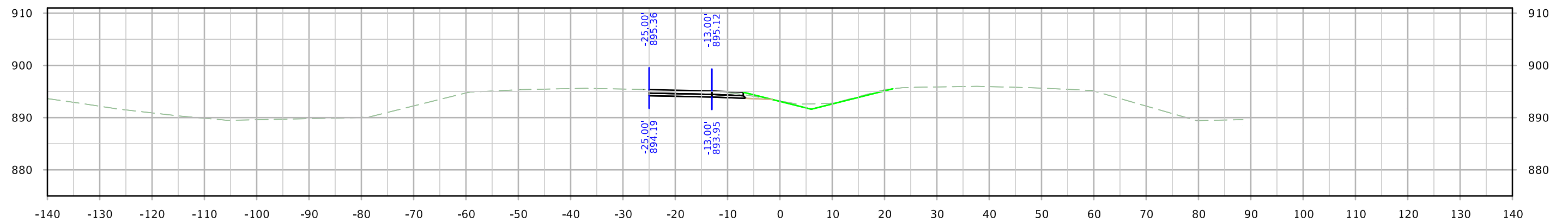
# US 30



STA. 2755+50.00

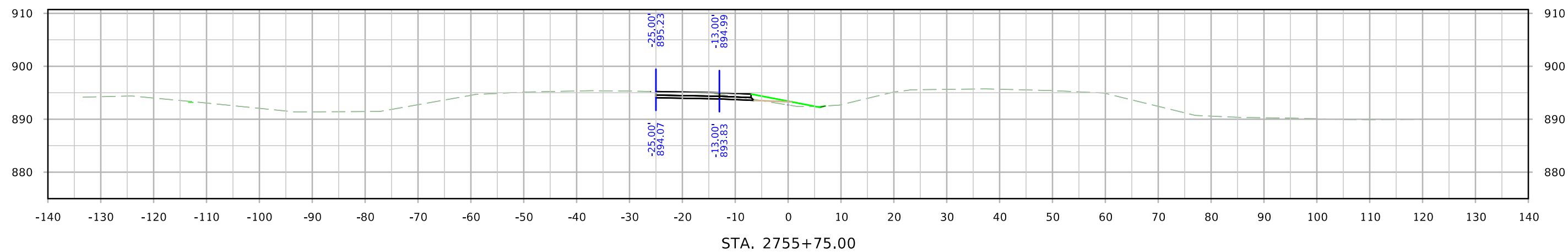
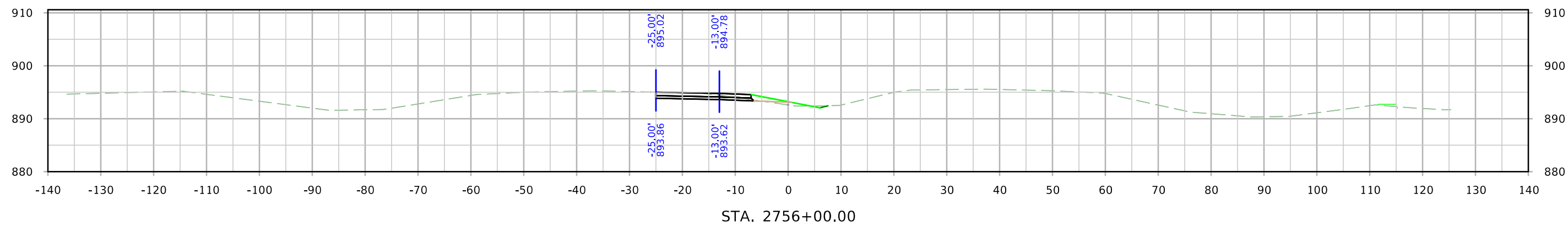
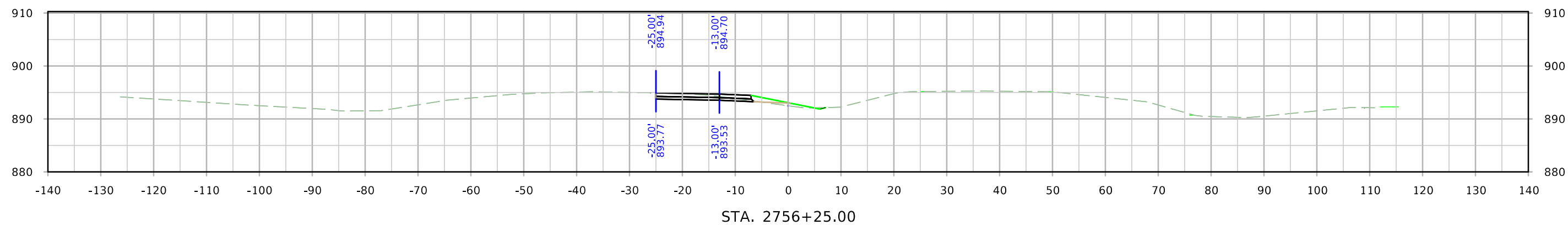


STA. 2755+25.00

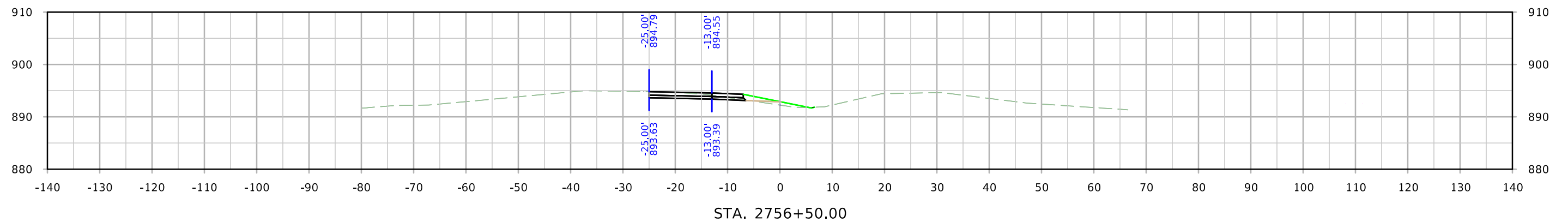
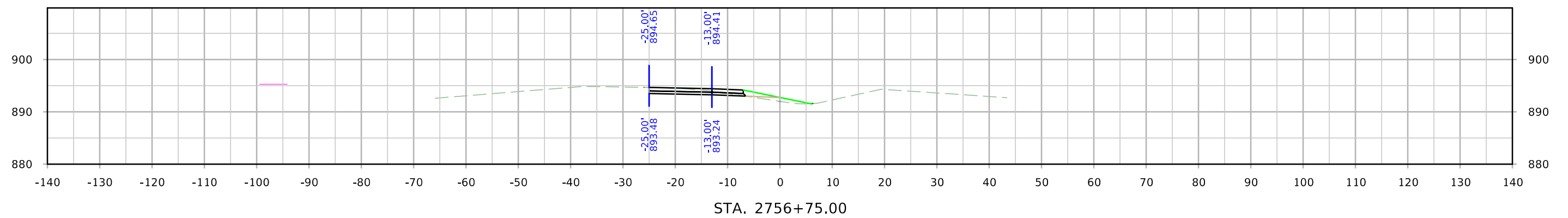
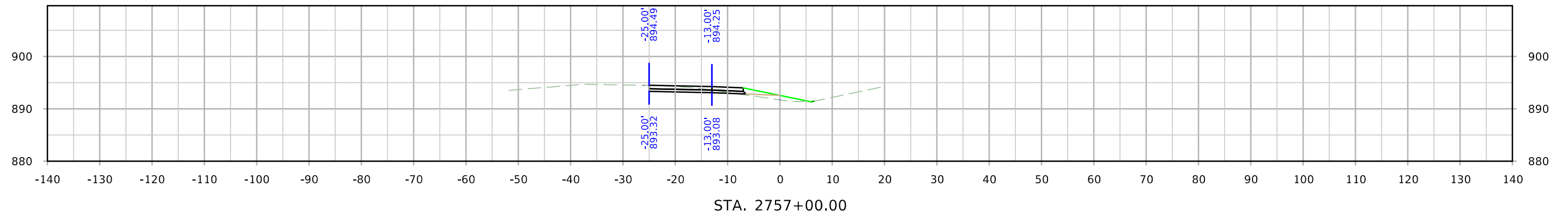


STA. 2755+21.64

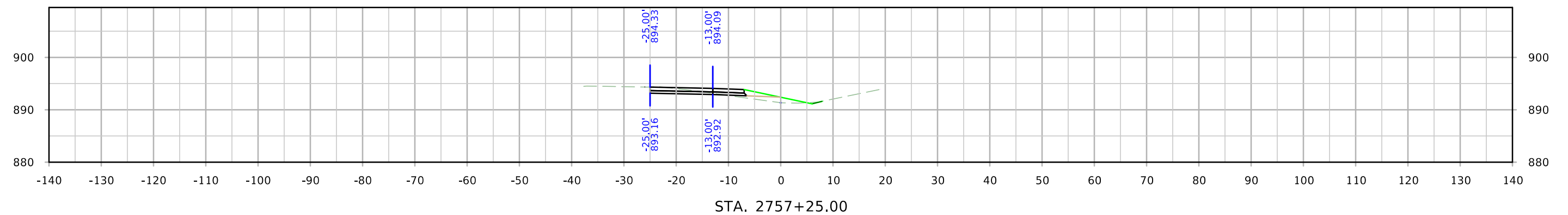
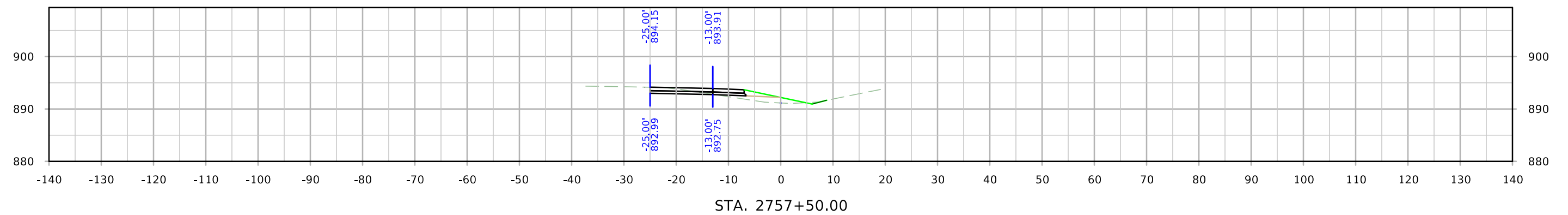
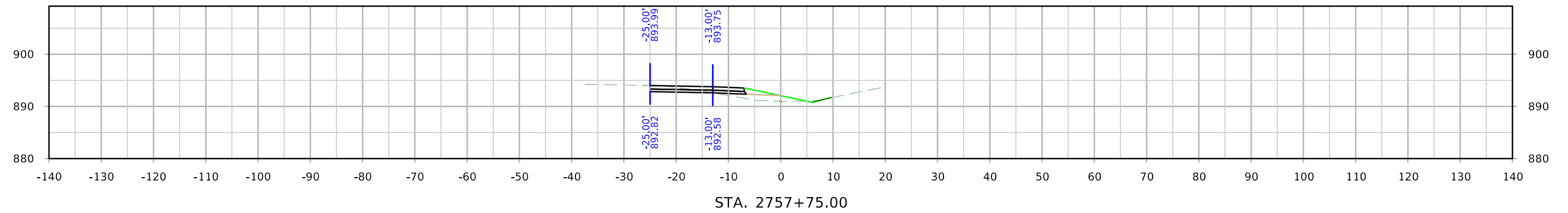
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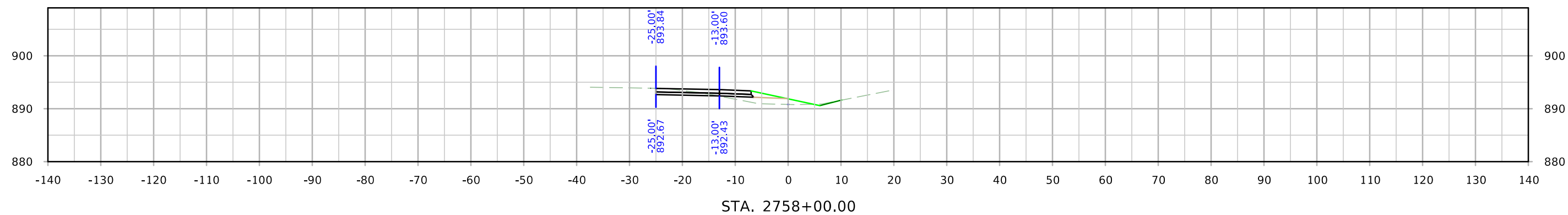
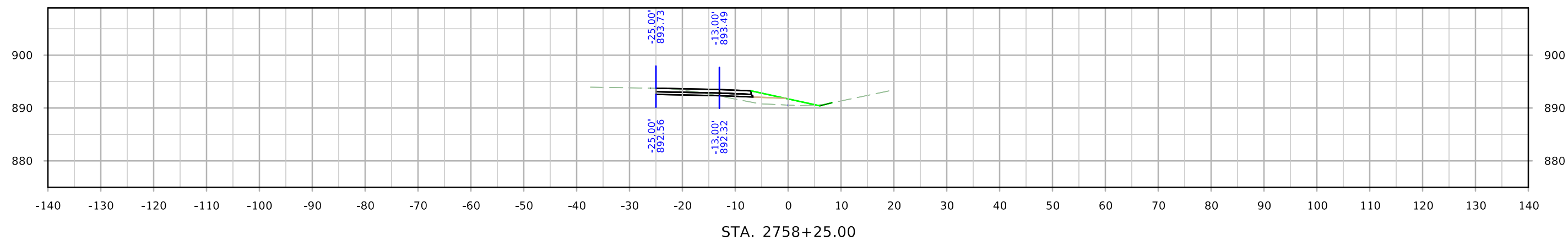
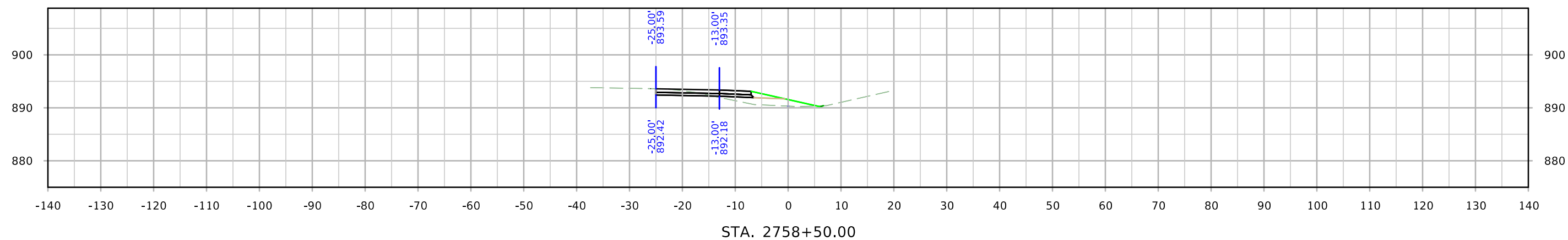
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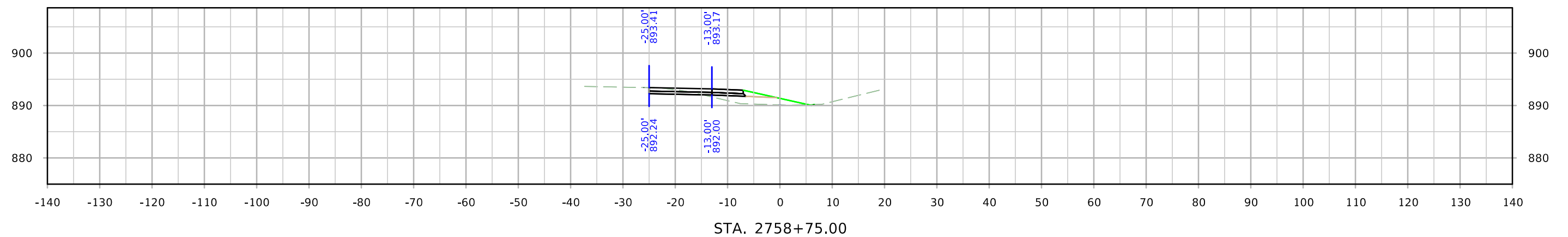
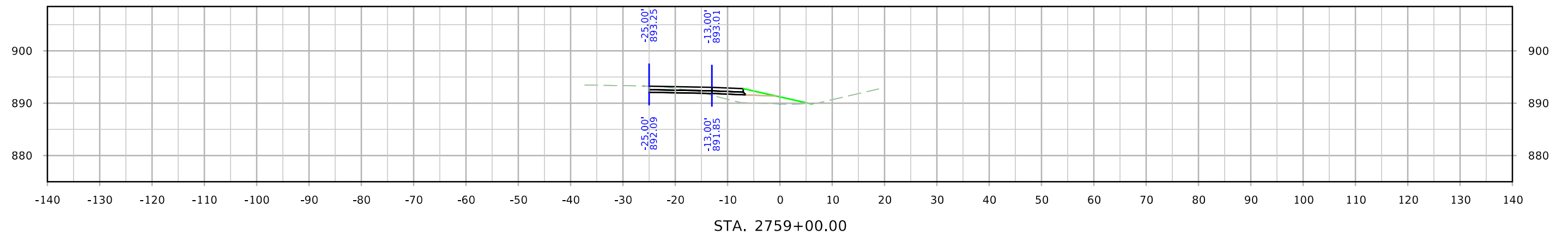
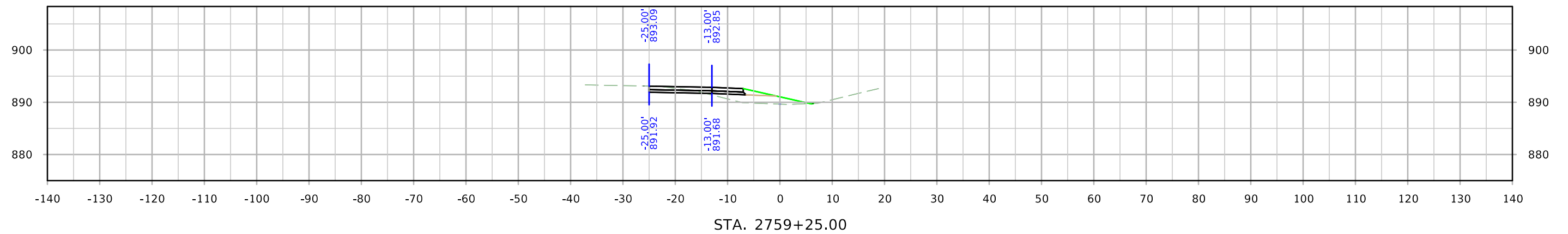
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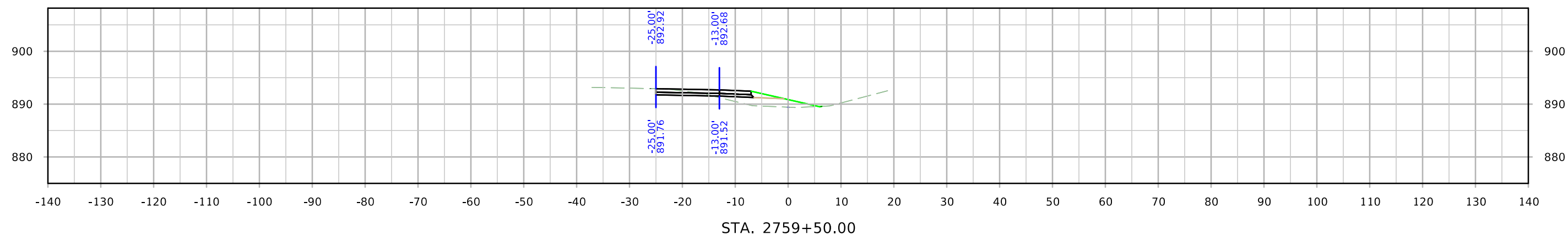
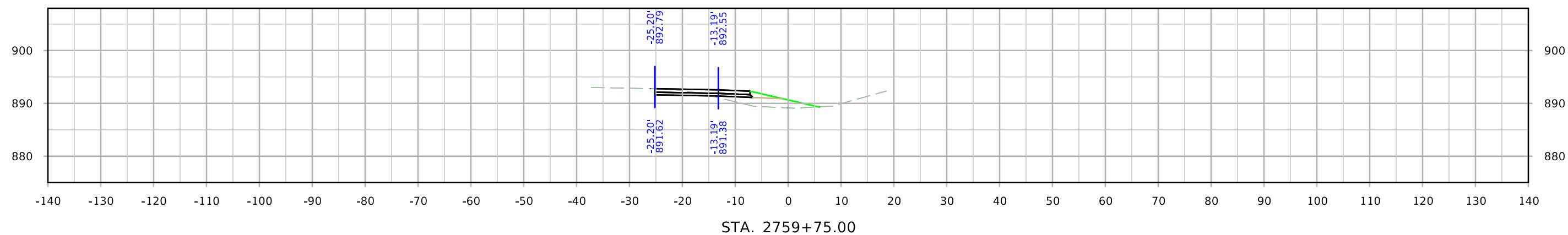
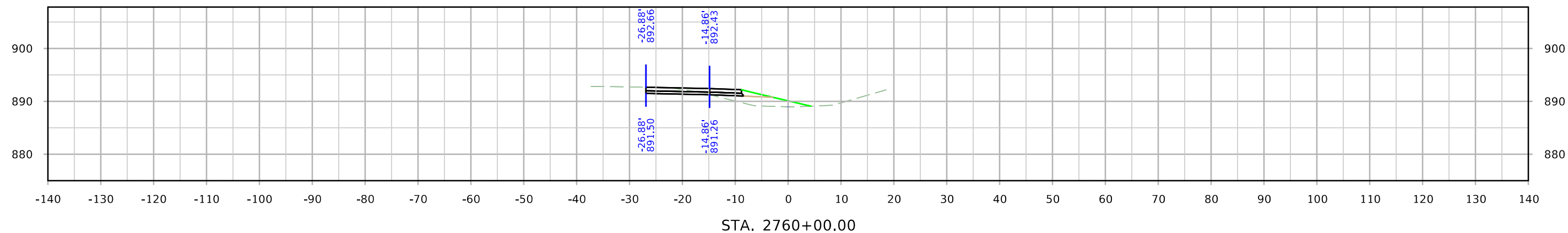
# US 30



# US 30

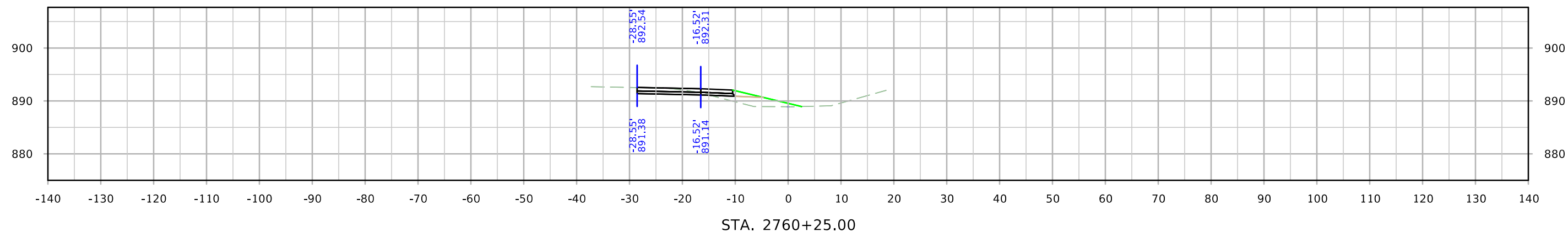
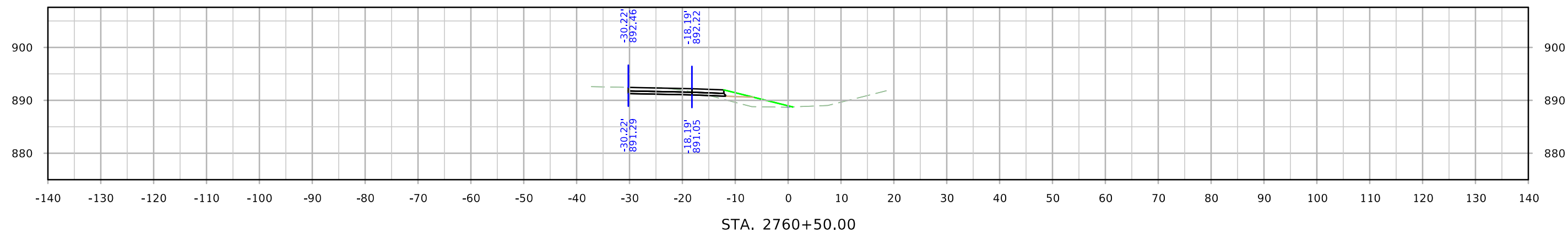
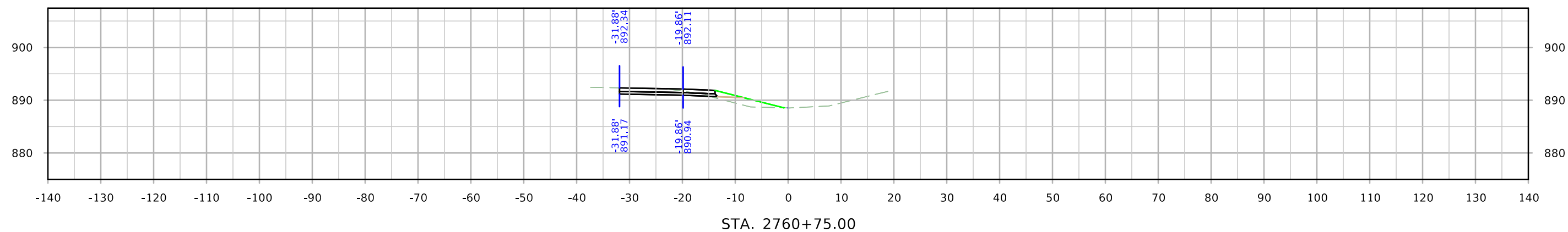


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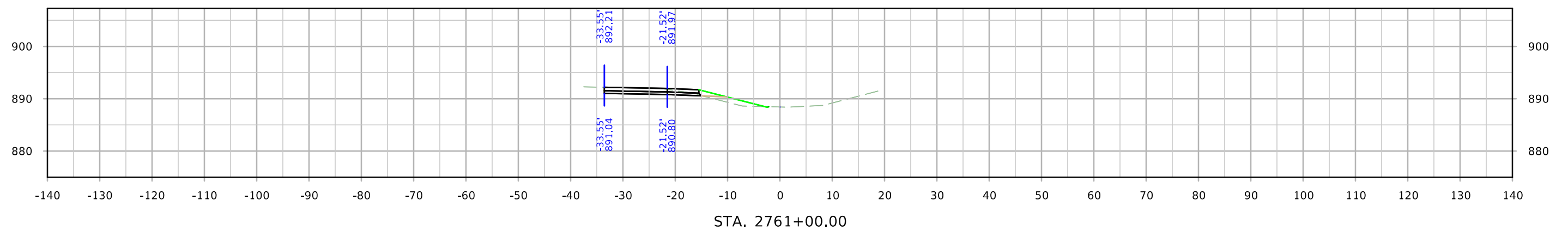
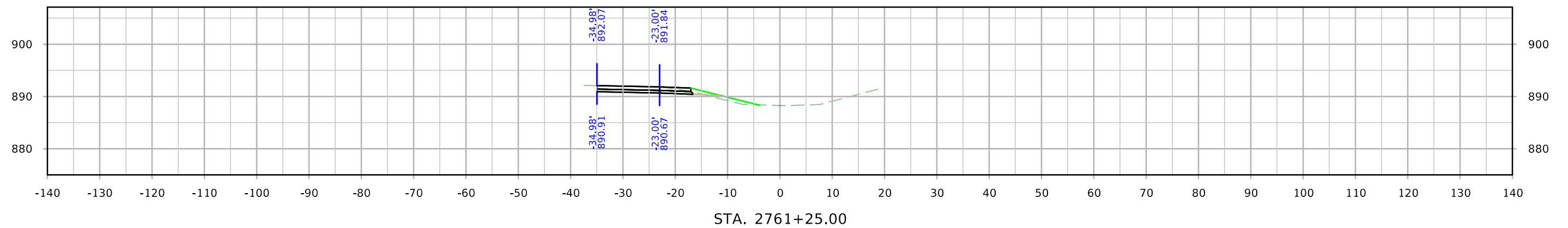
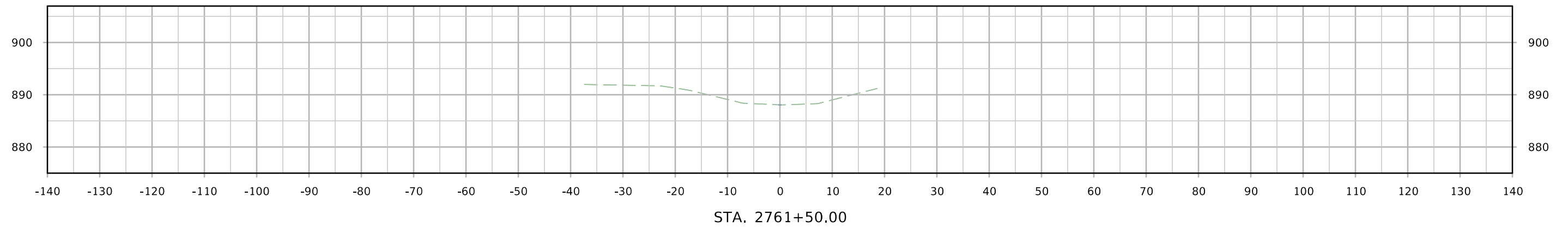




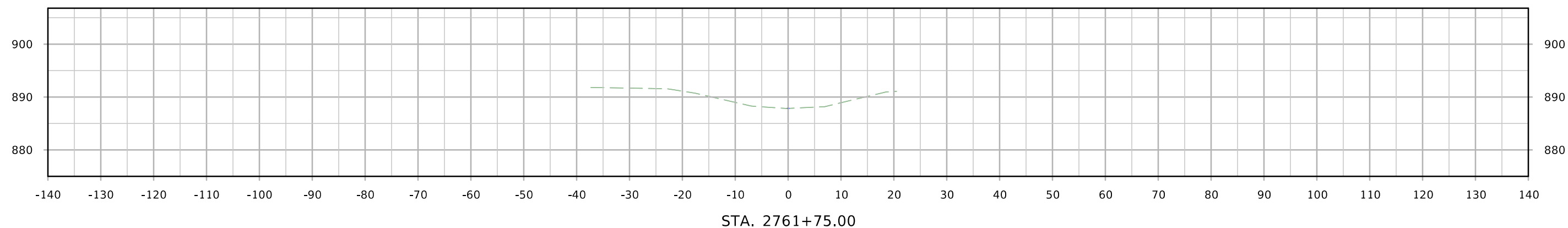
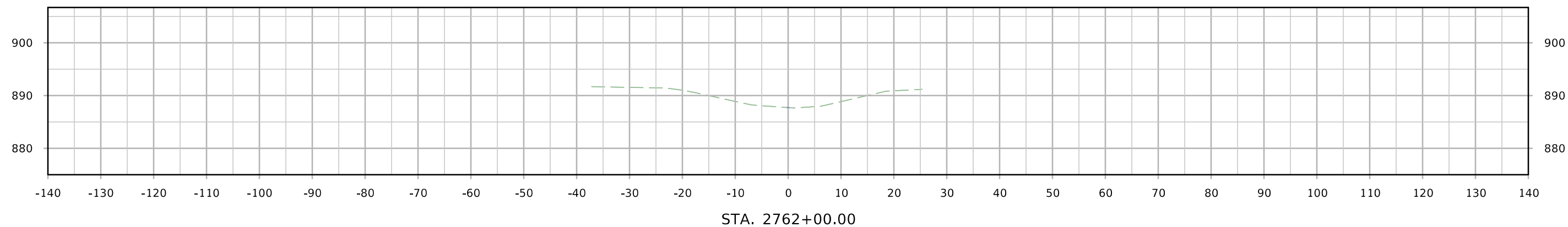
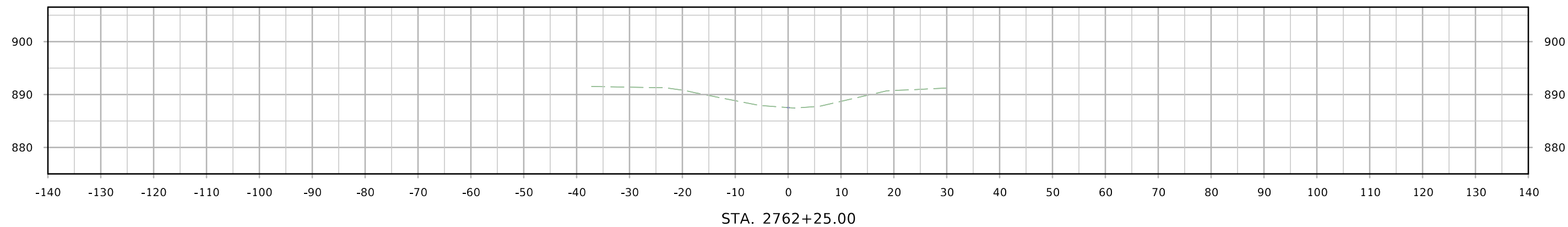
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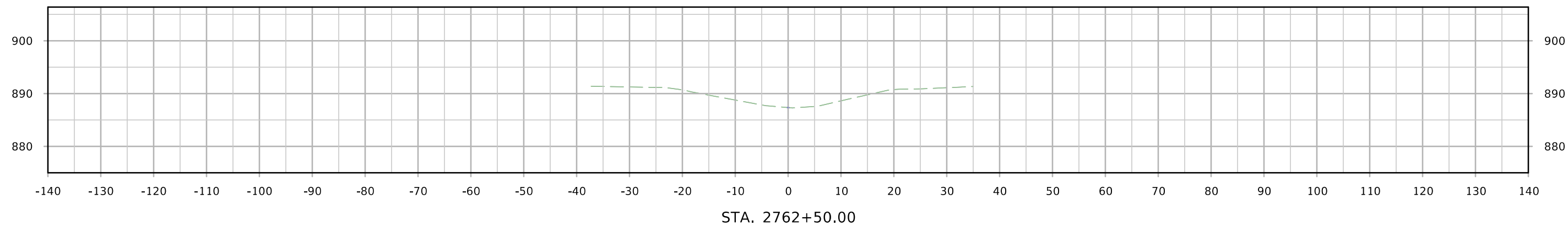
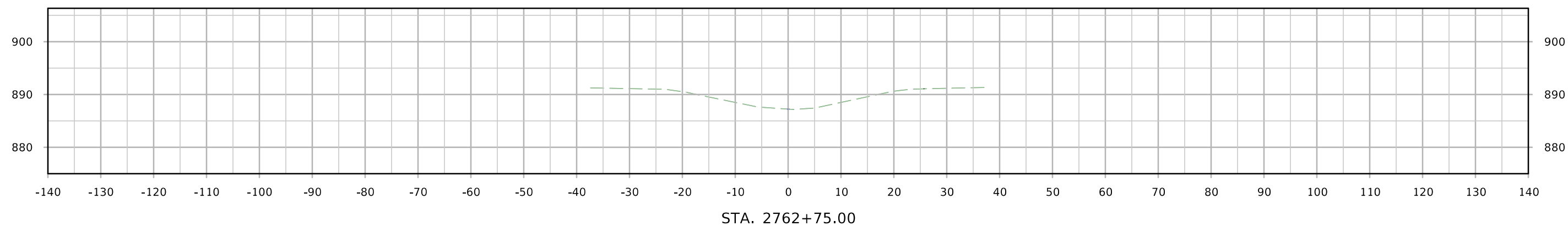
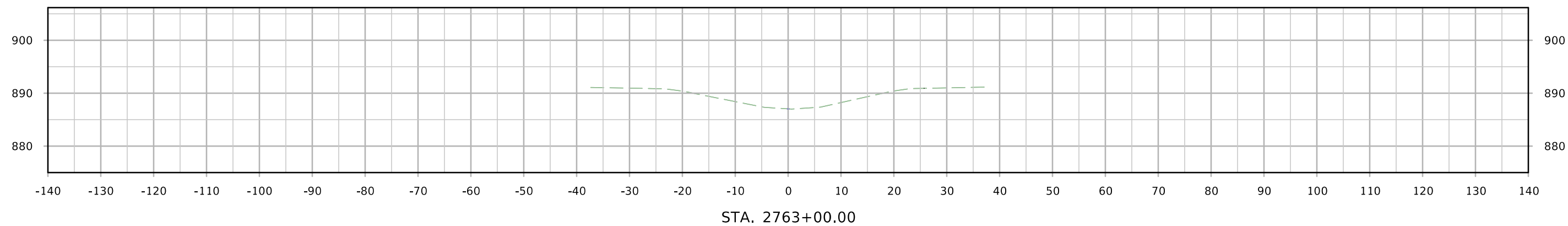
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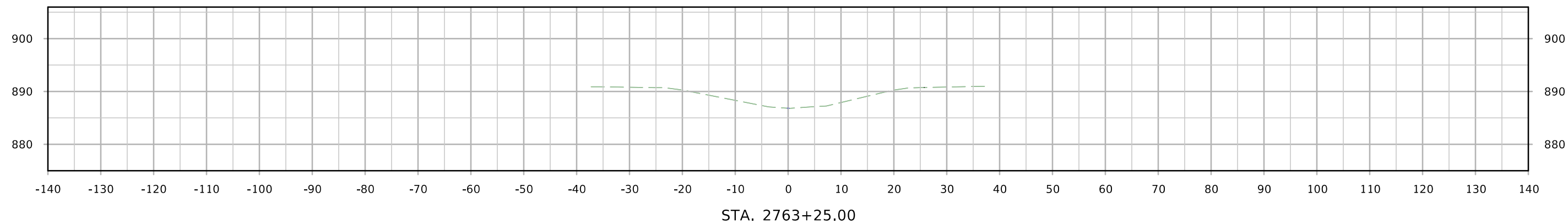
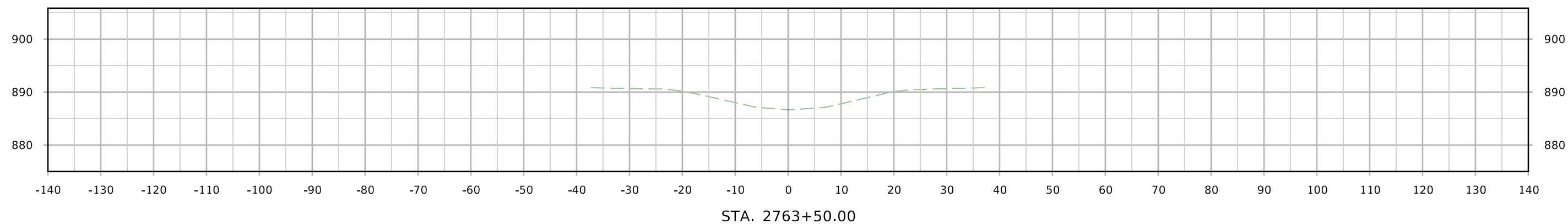
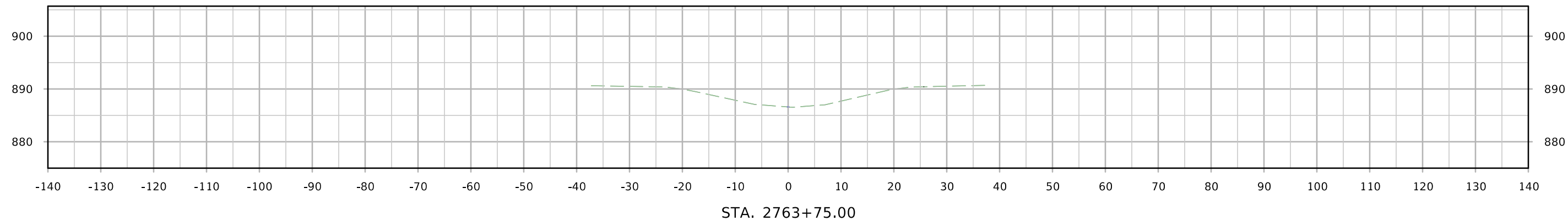
# US 30



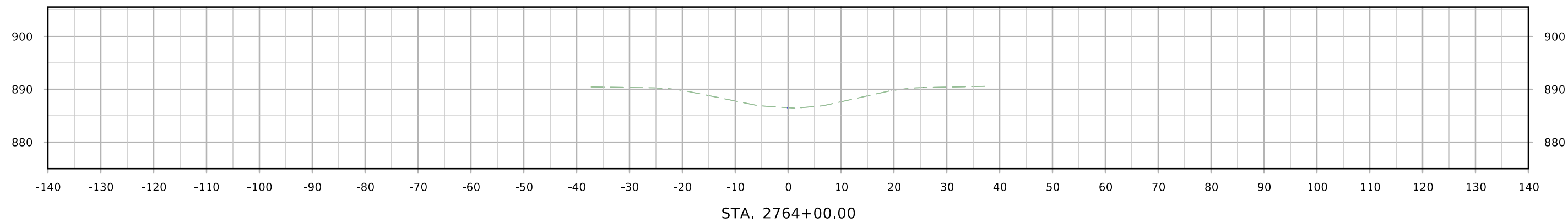
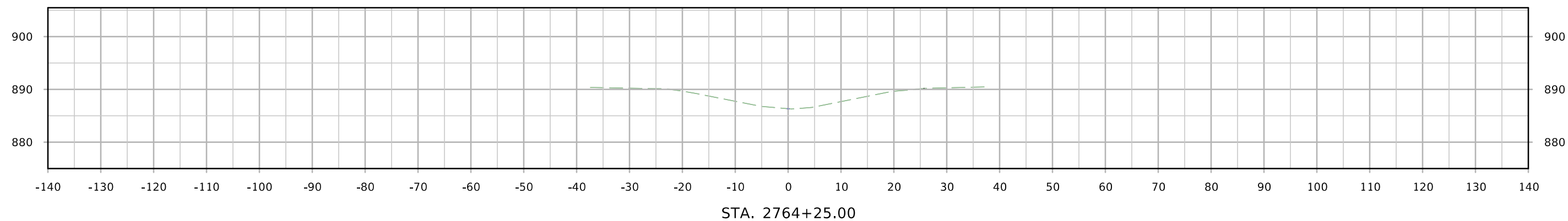
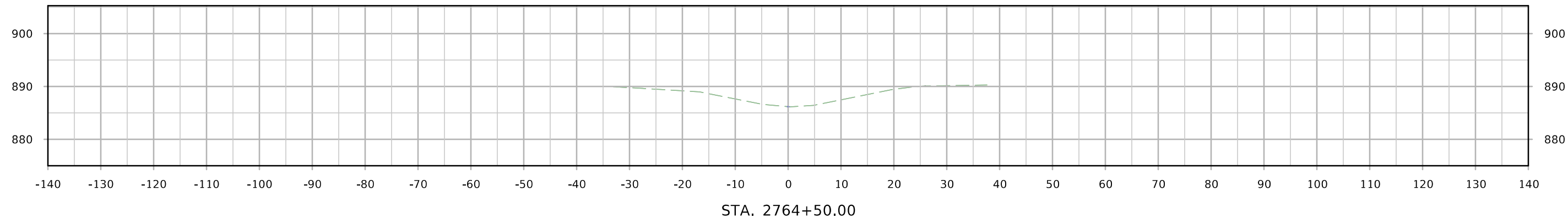
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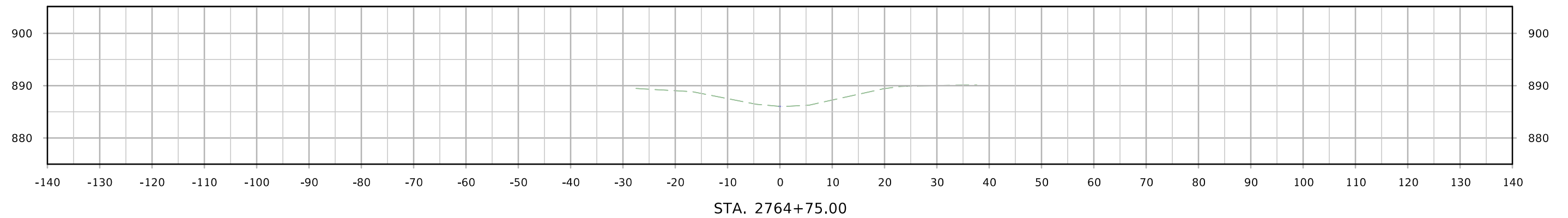
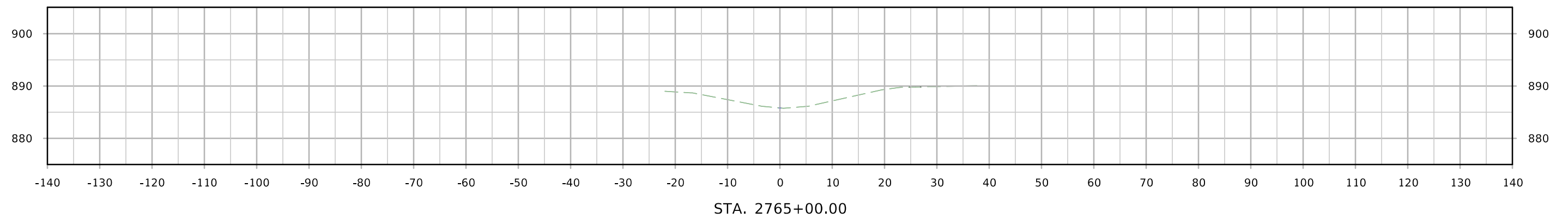
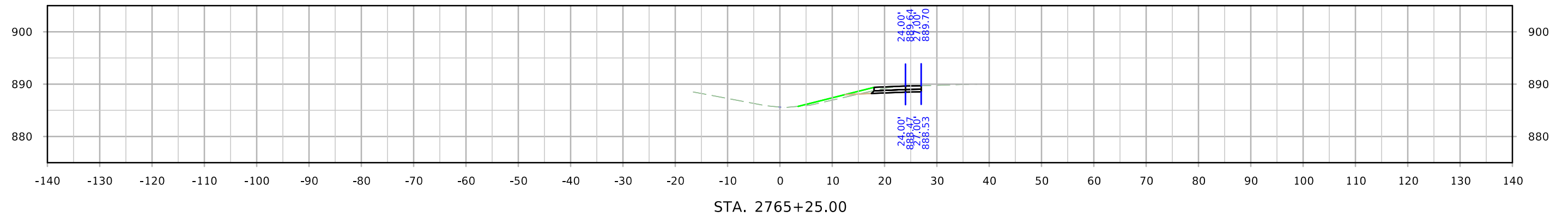
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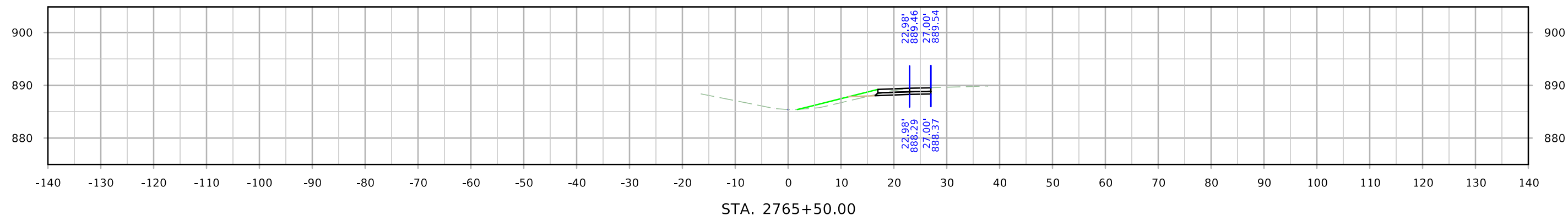
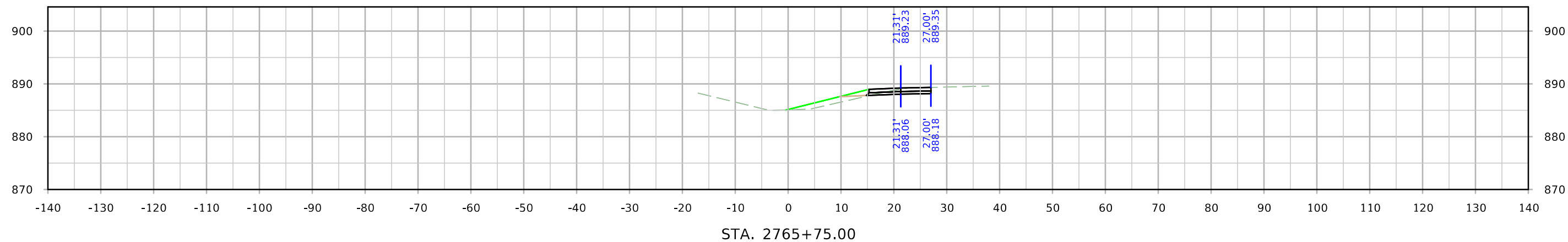
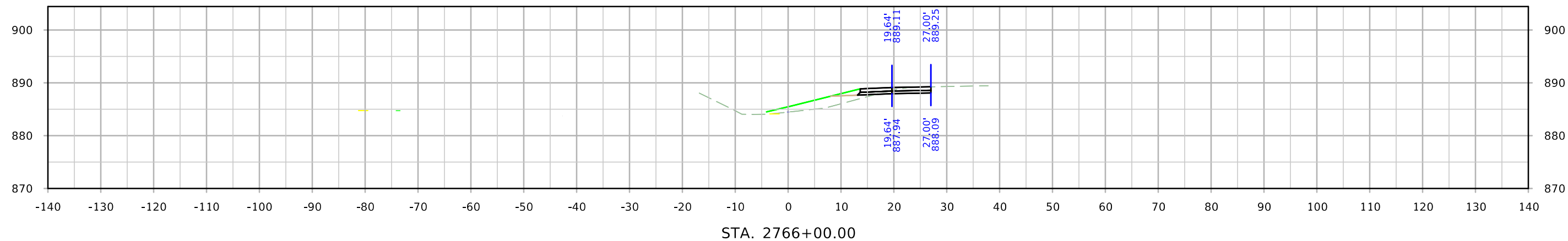
# US 30



# US 30

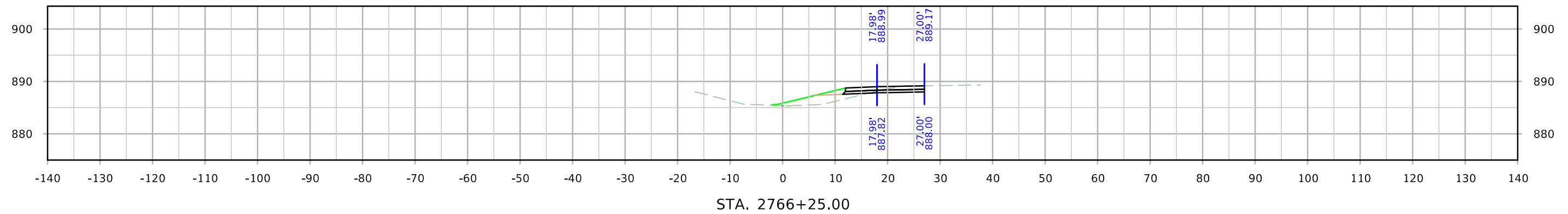
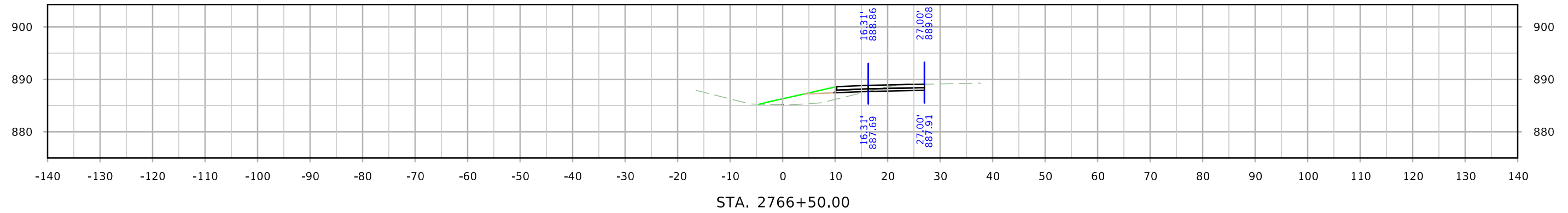
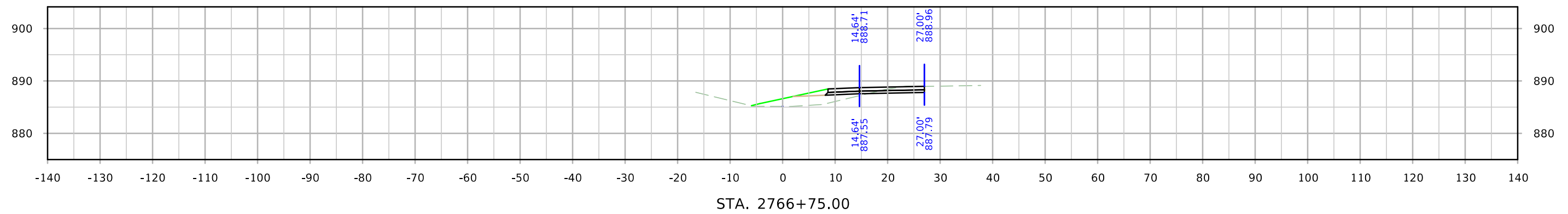


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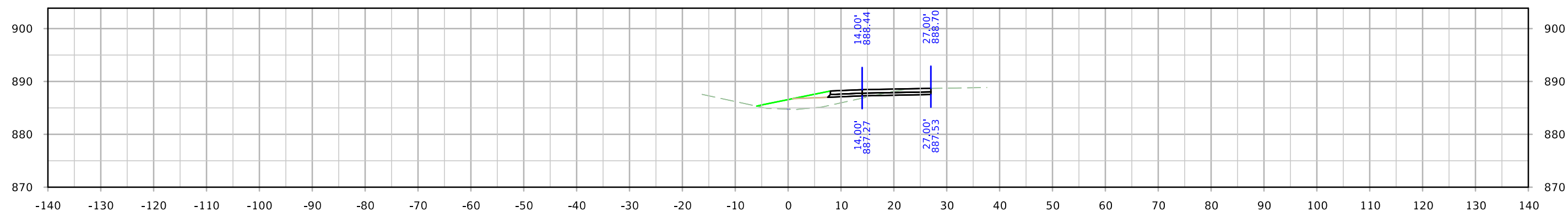




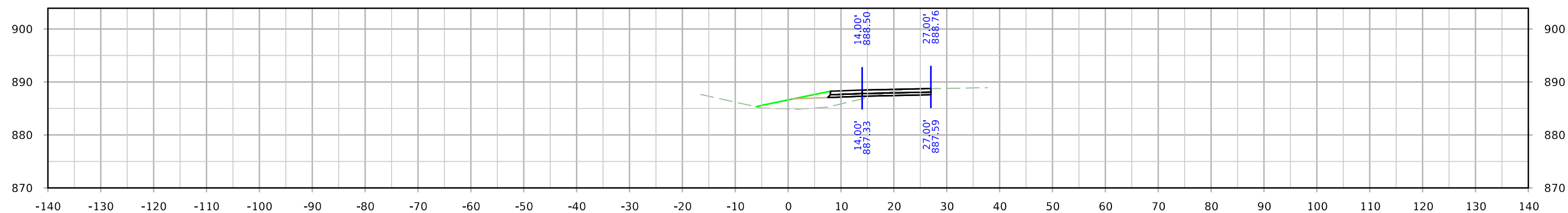
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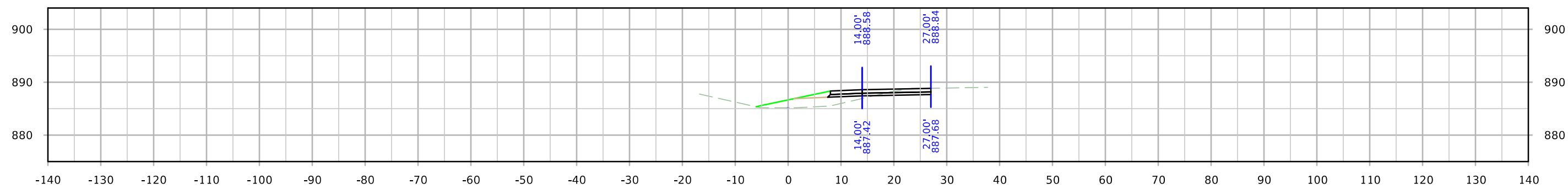
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STA. 2767+50.00

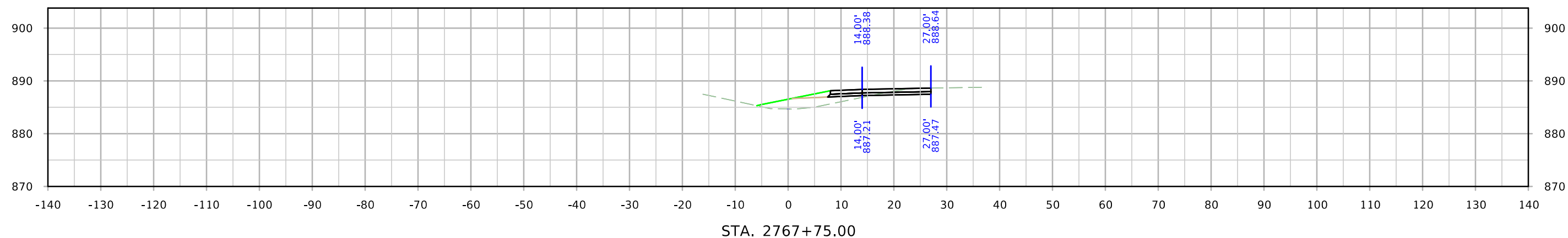
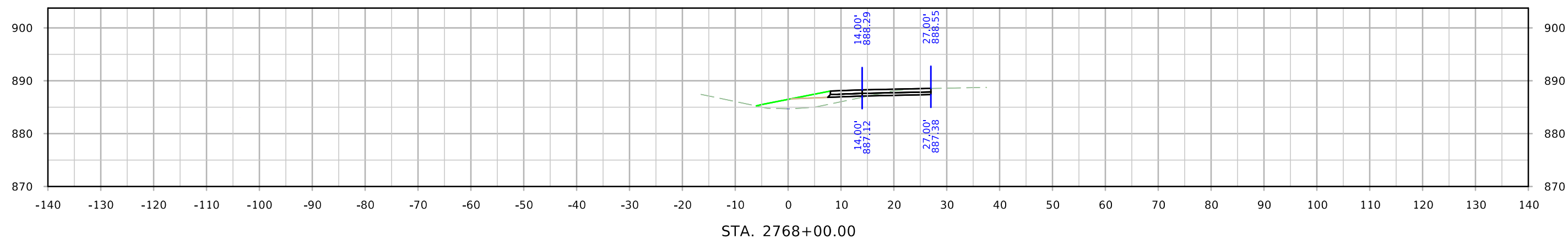
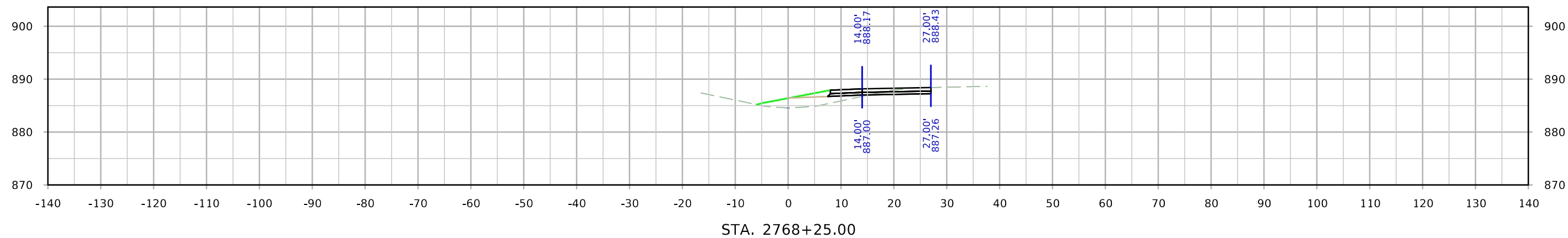


STA. 2767+25.00

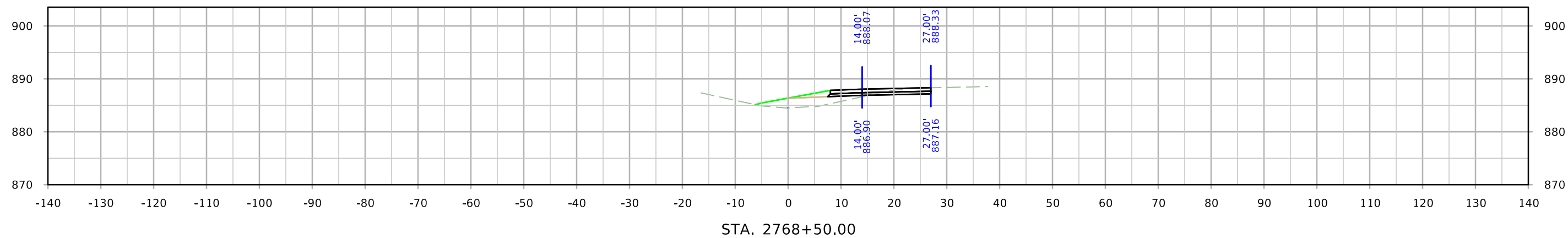
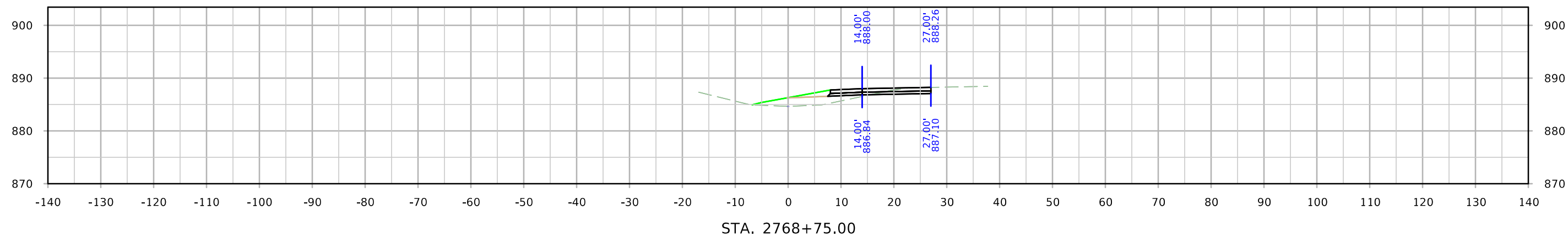
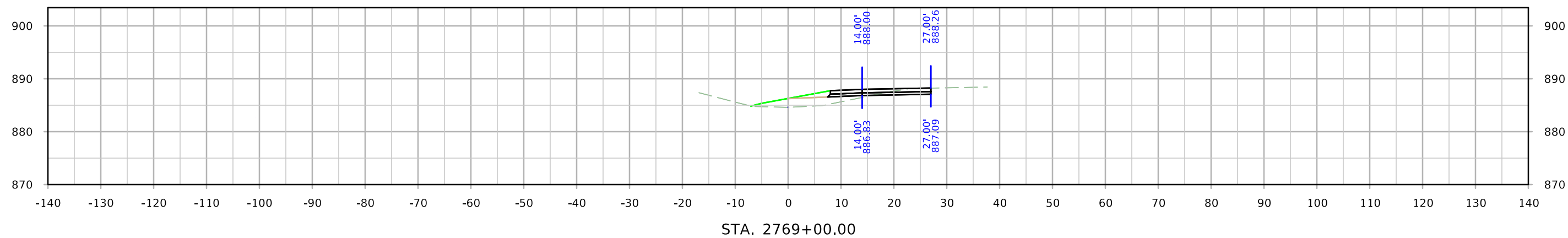


STA. 2767+00.00

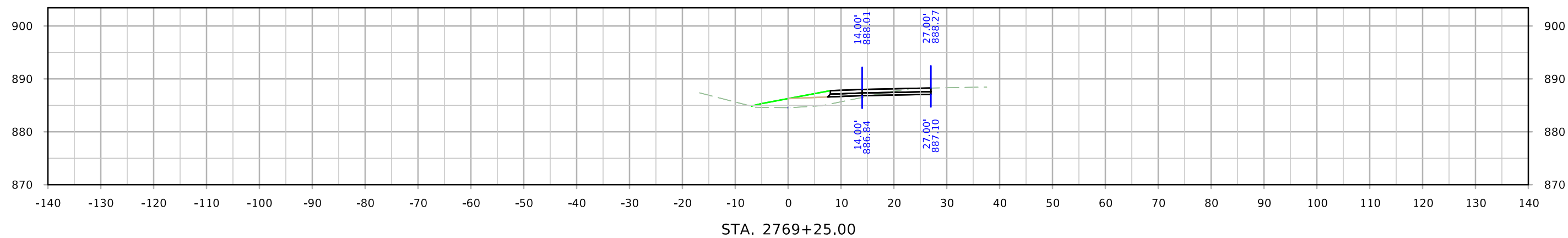
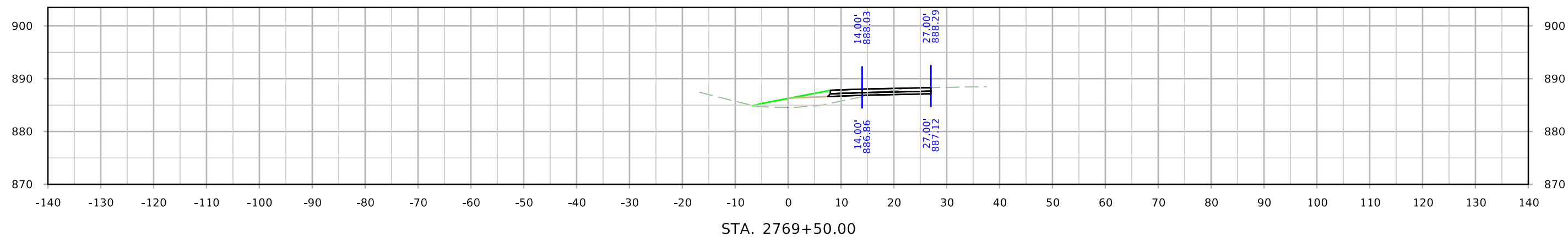
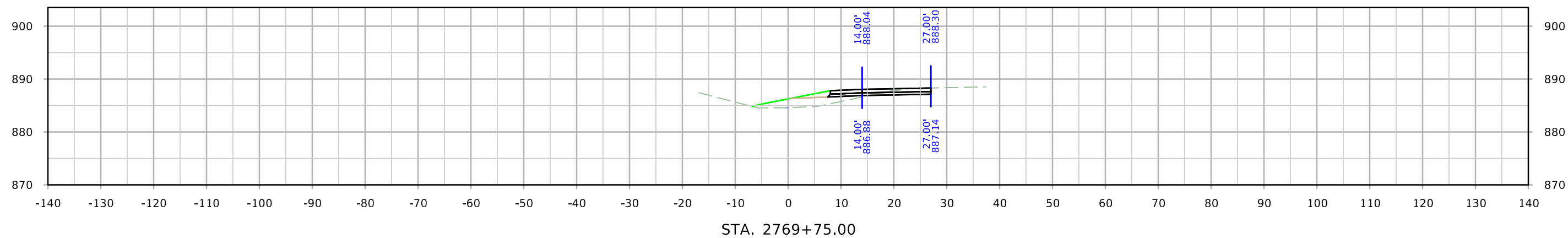
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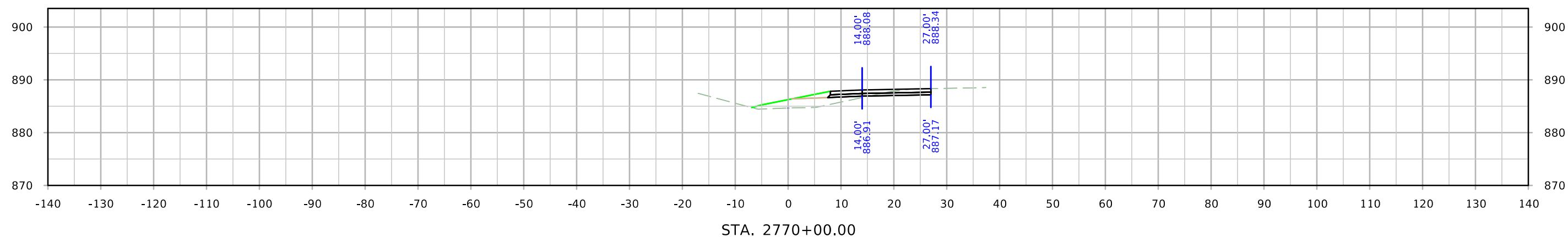
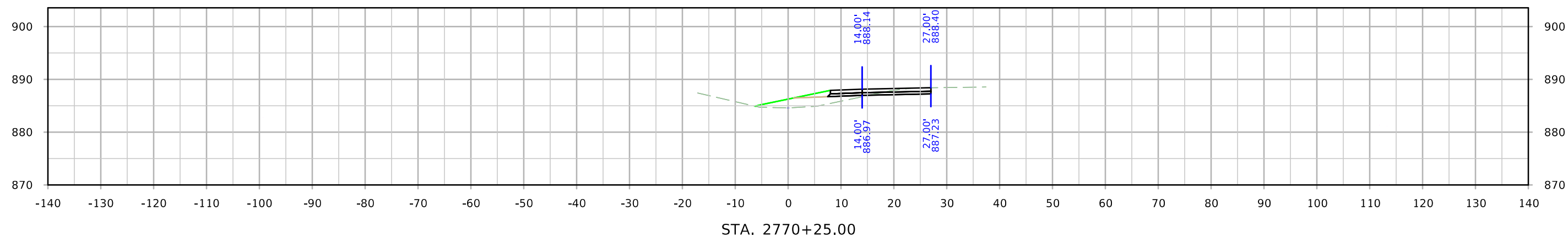
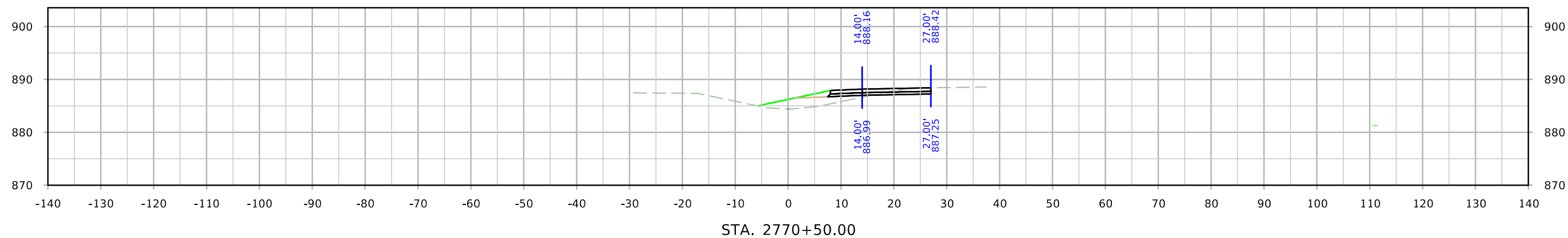
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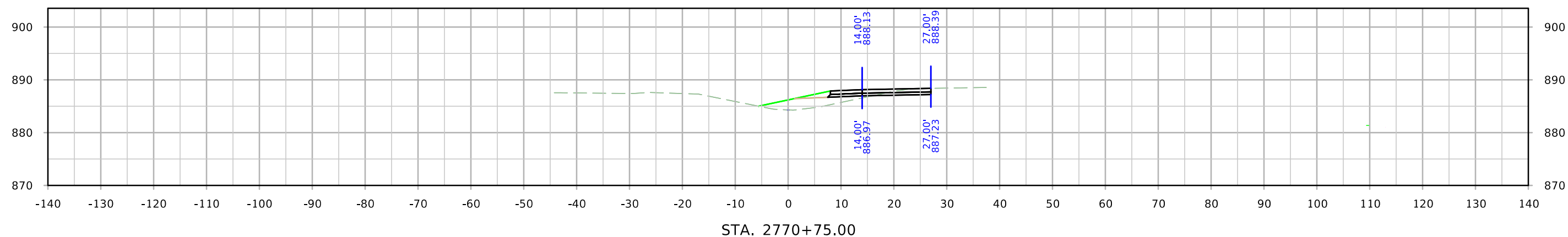
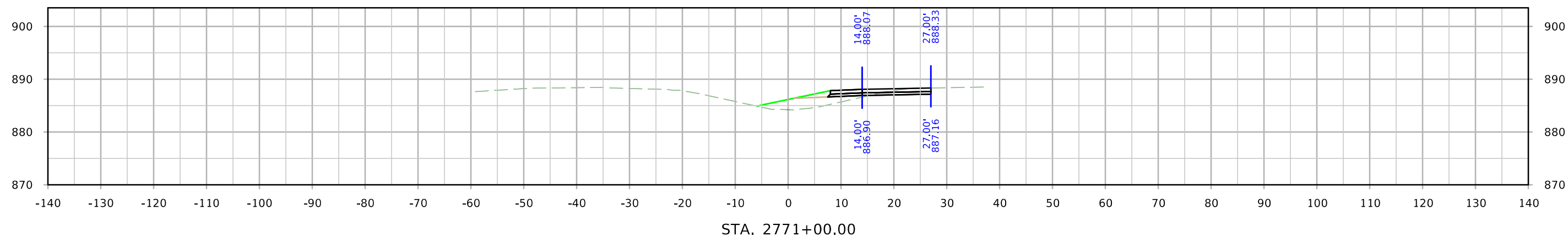
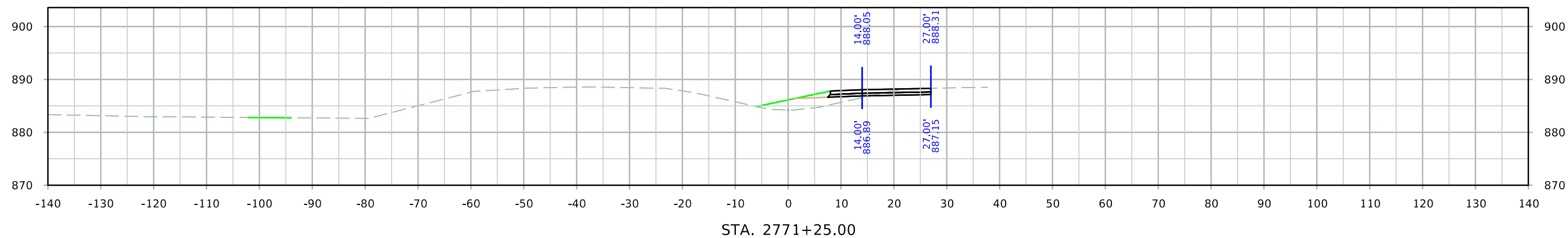
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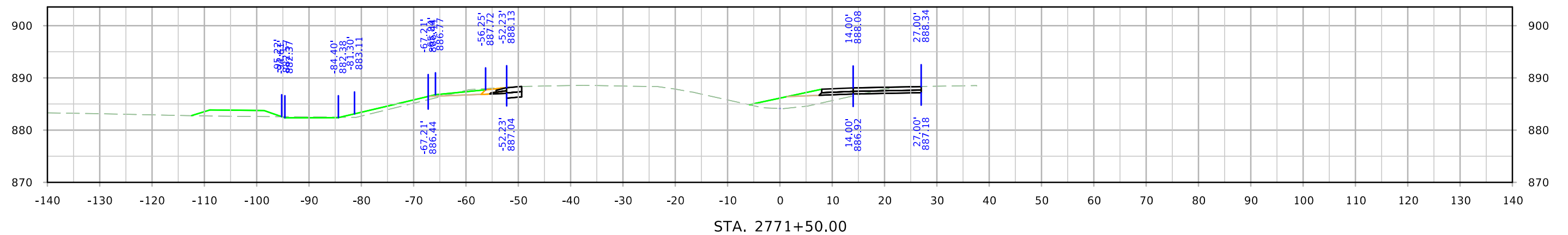
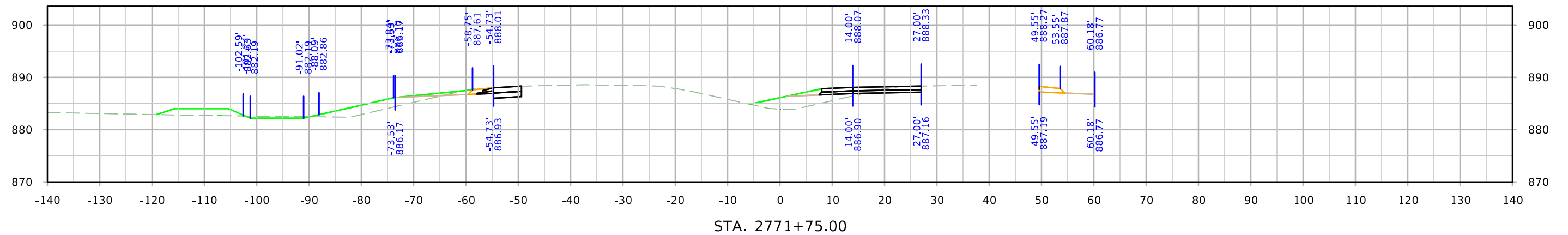
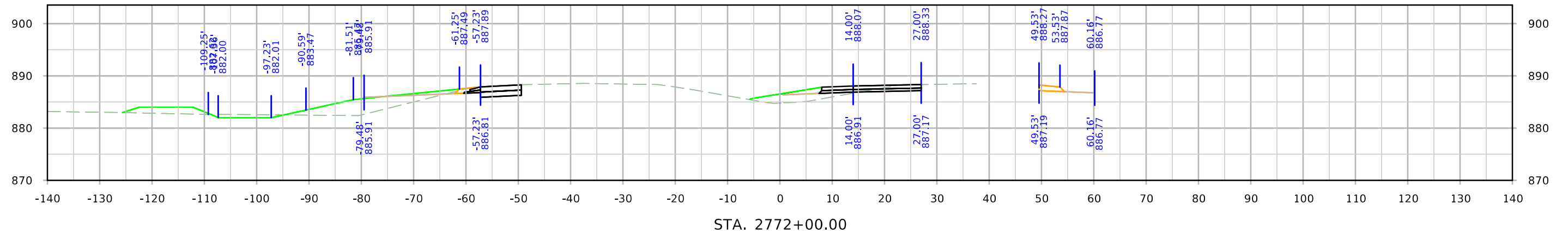
# US 30



# US 30

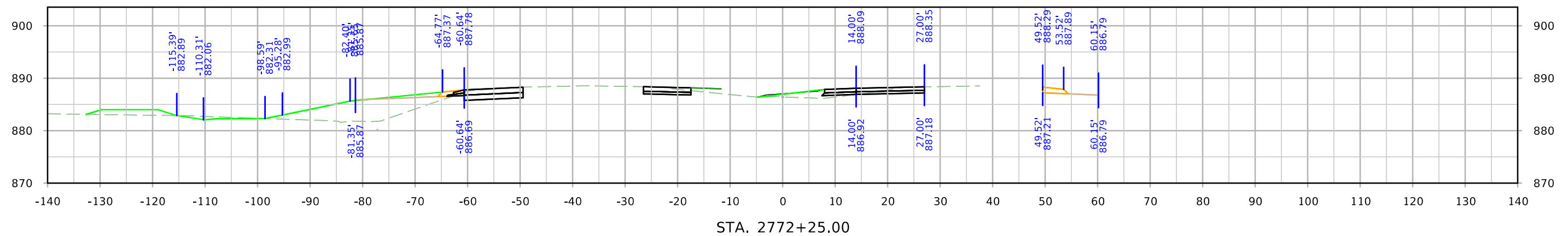
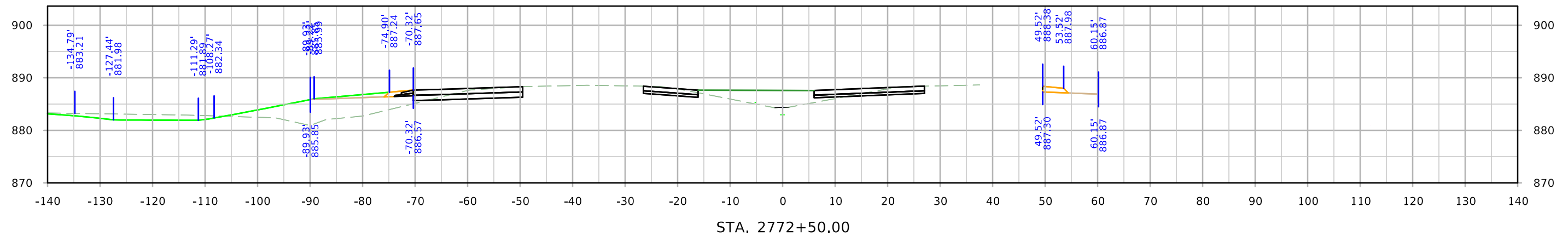
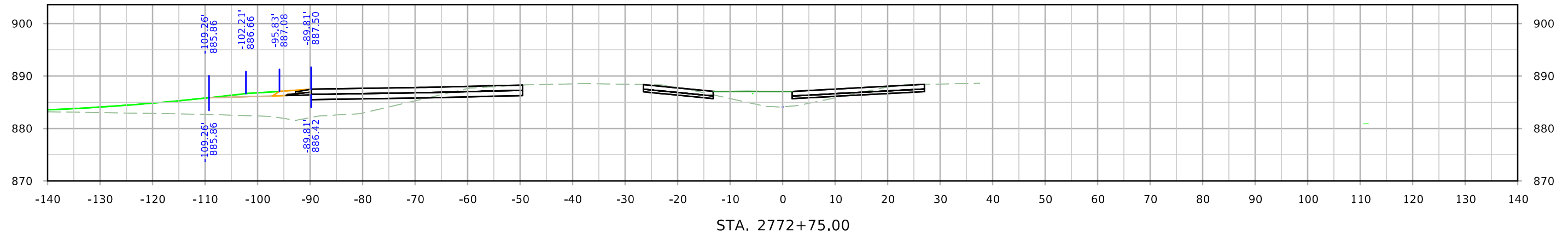


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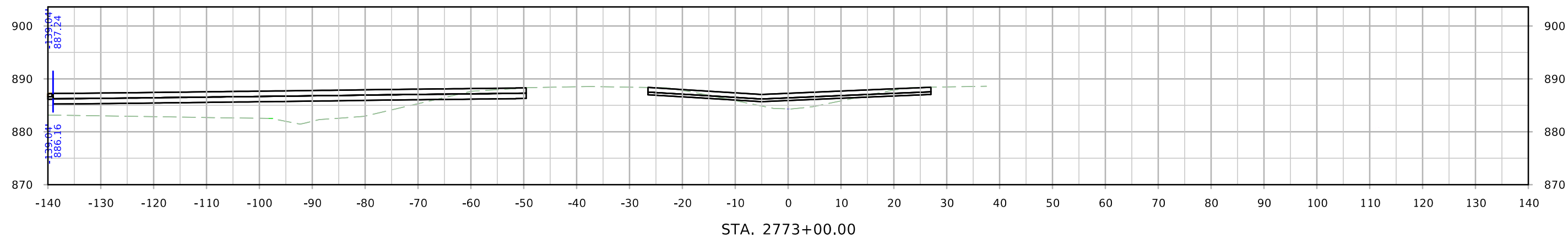
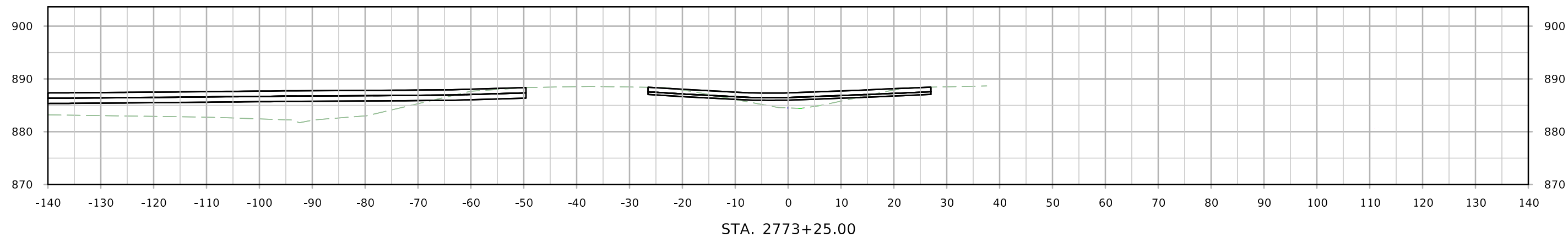
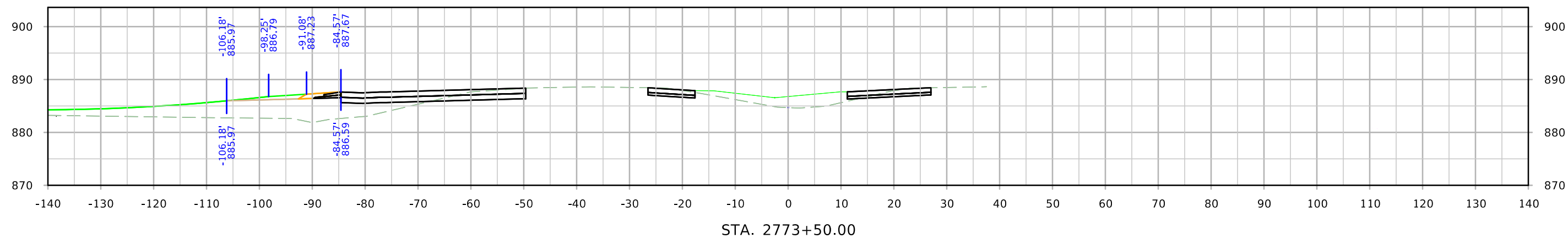


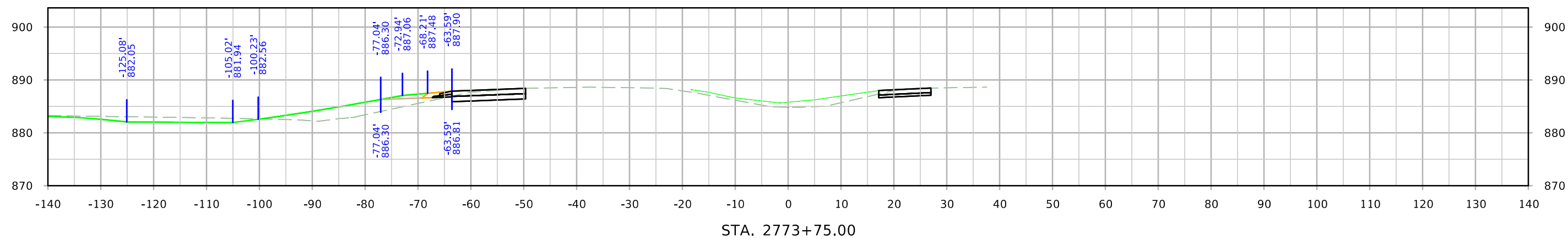
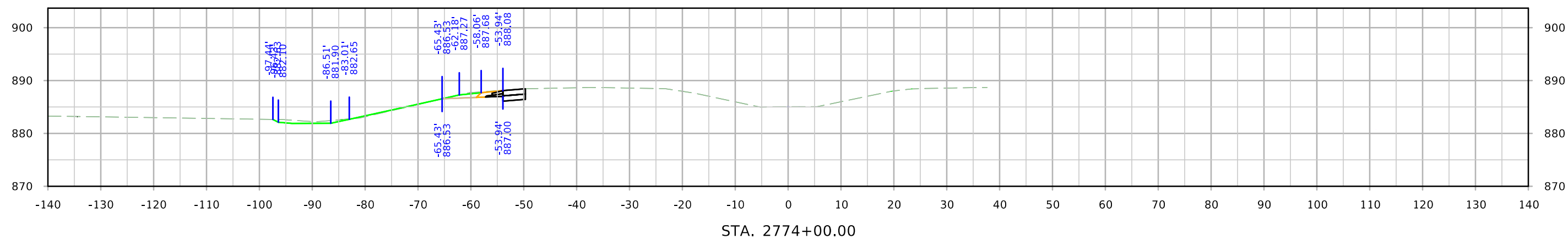


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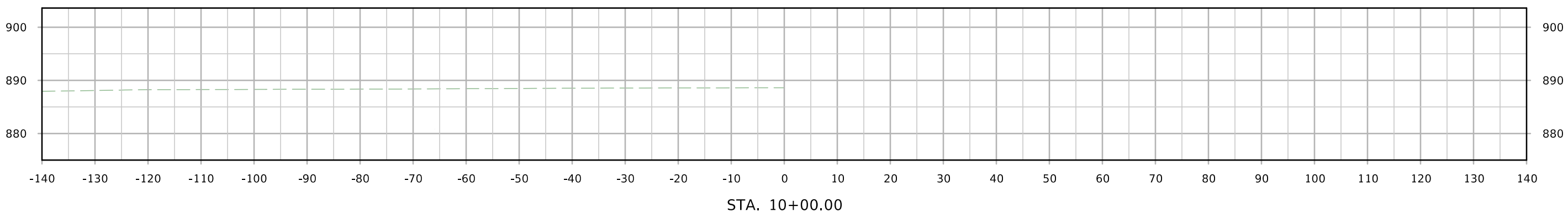
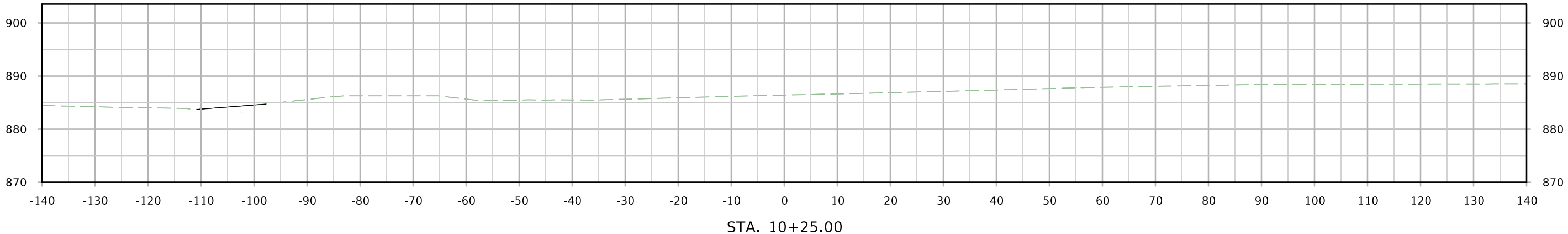
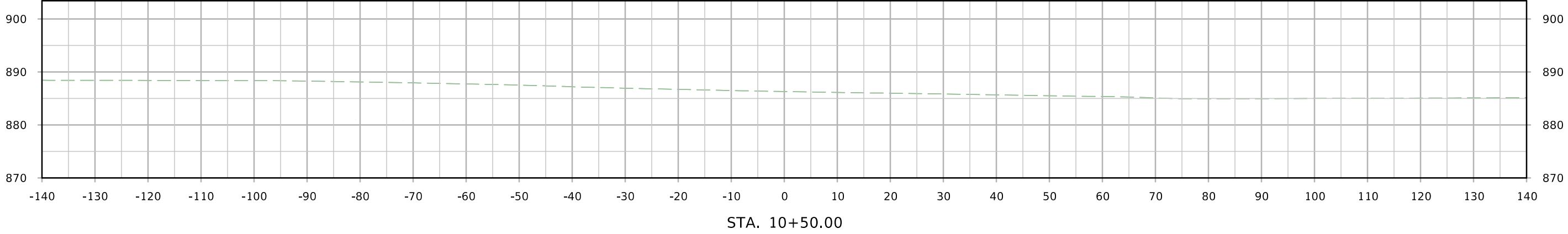


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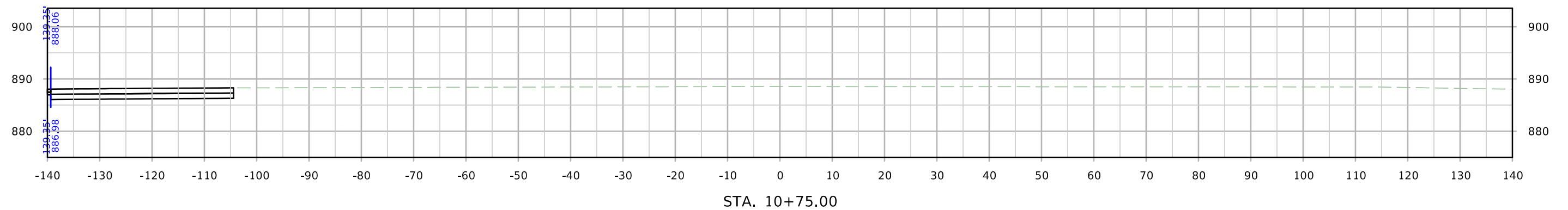
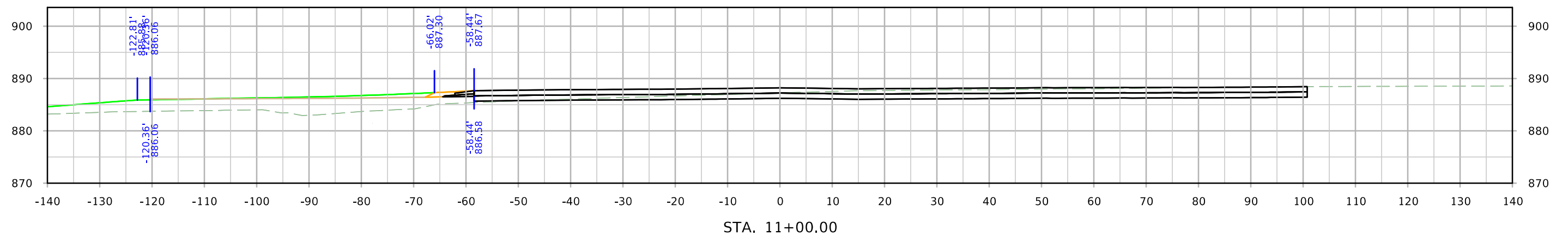
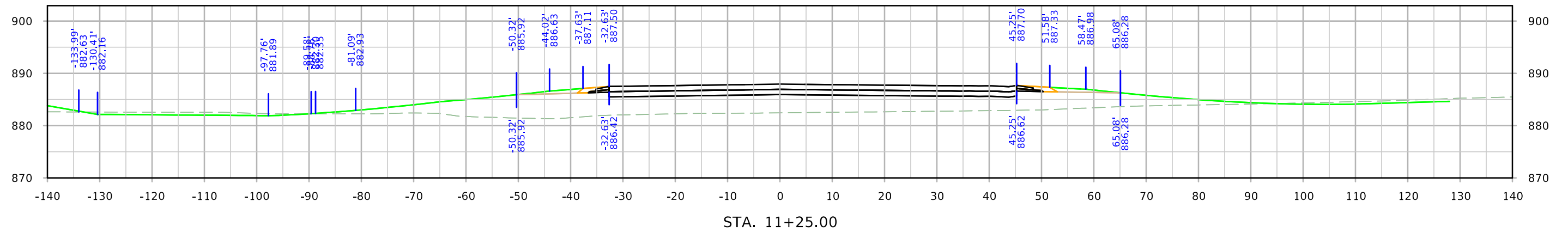




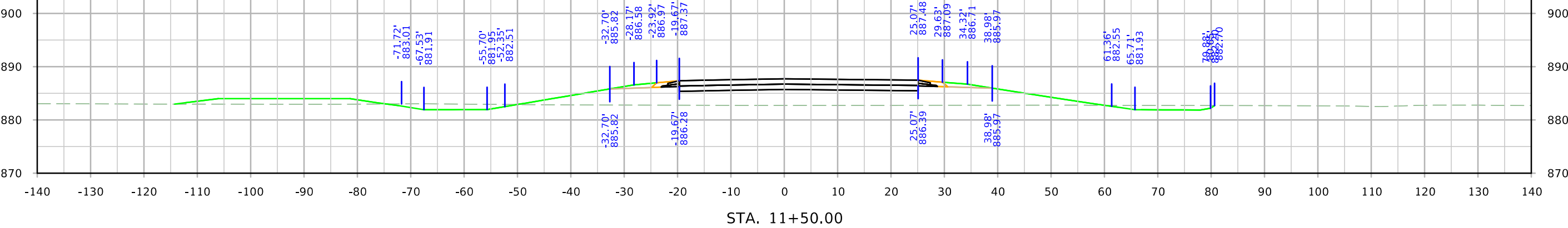
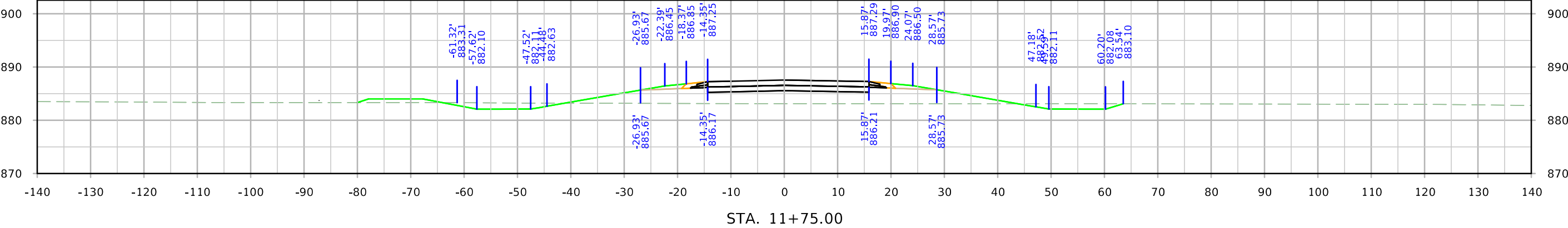
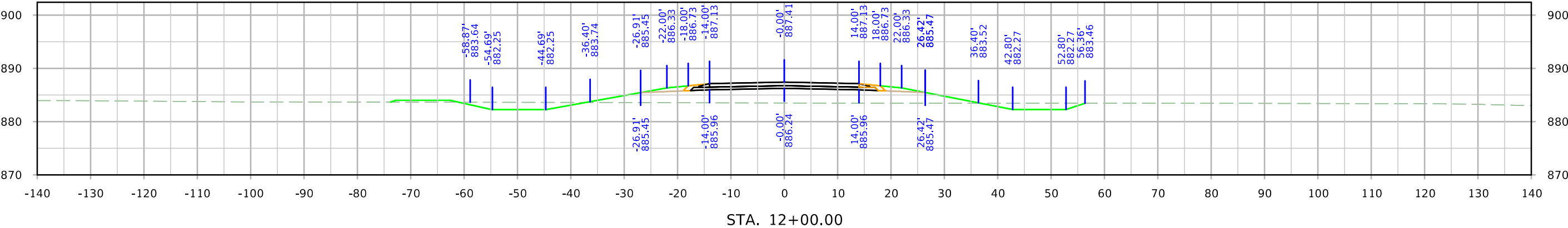
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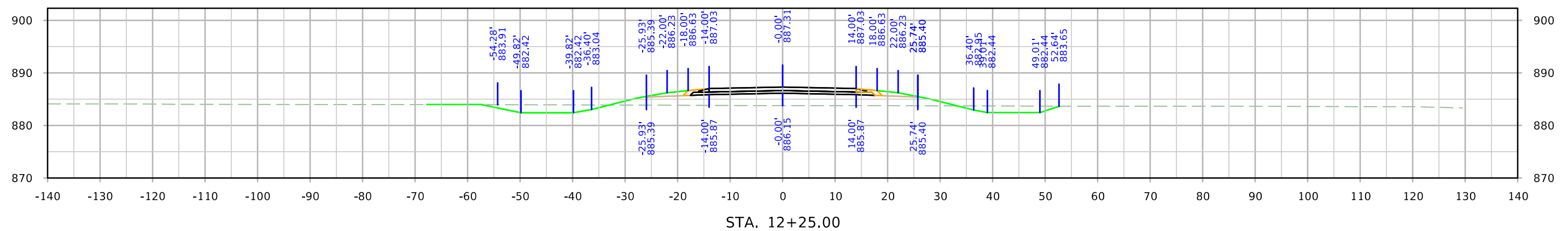
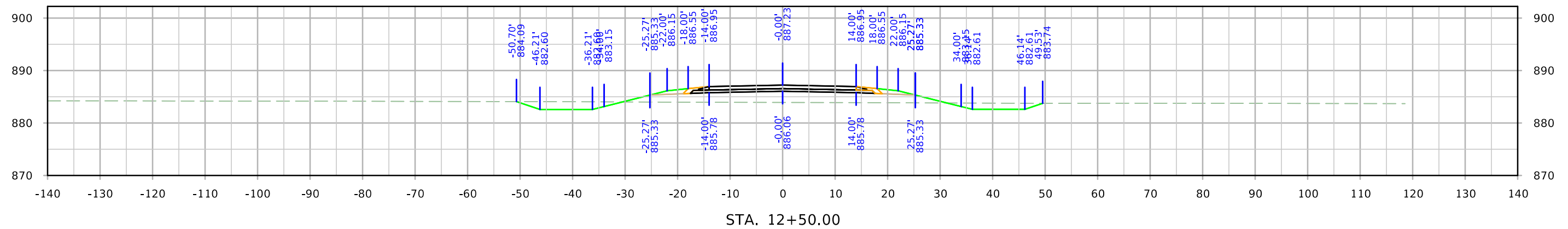
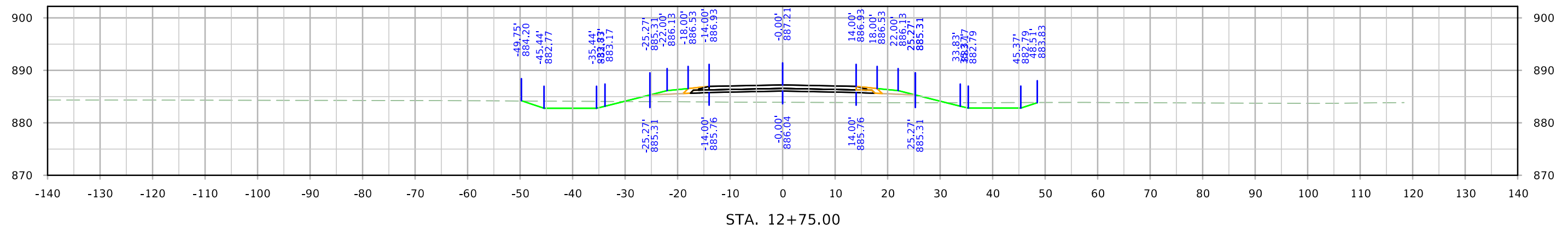
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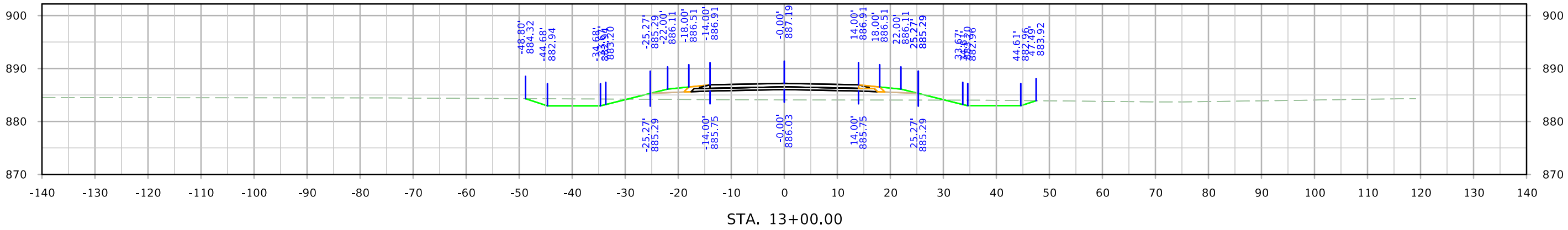
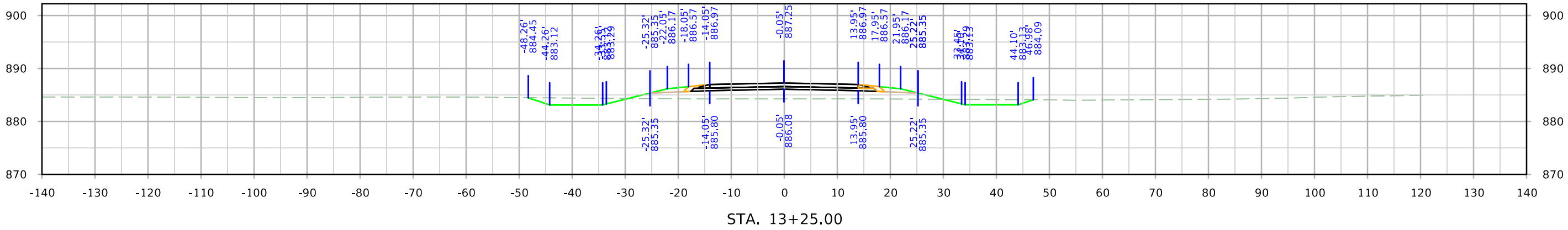
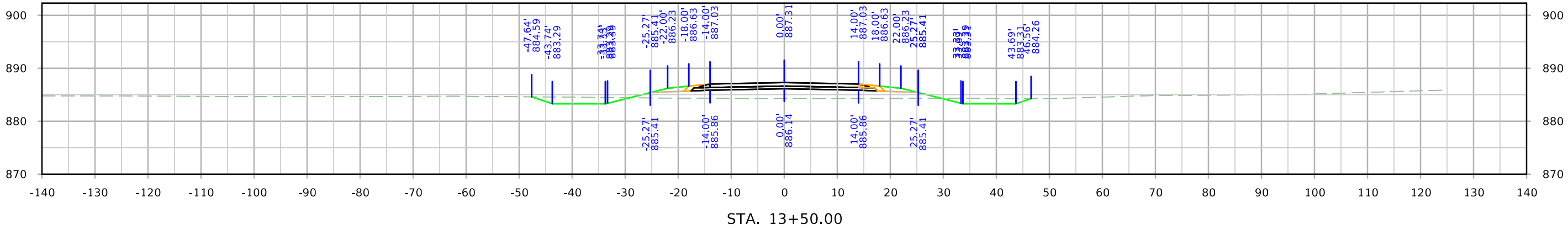
# L AVENUE RELOCATED



# L AVENUE RELOCATED

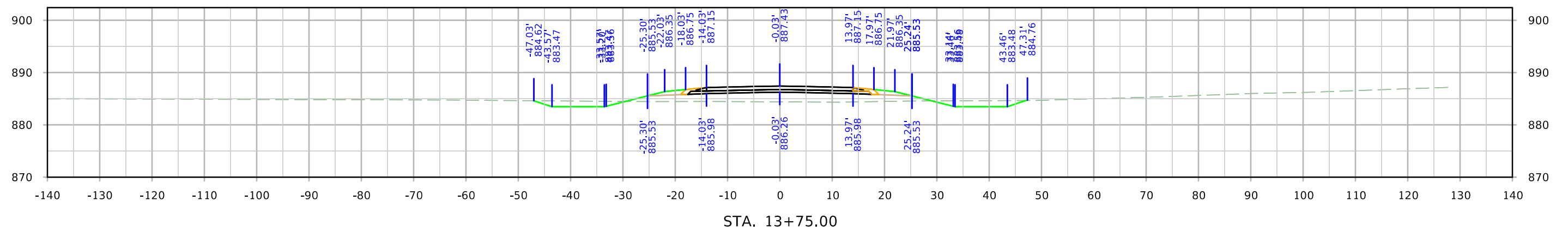
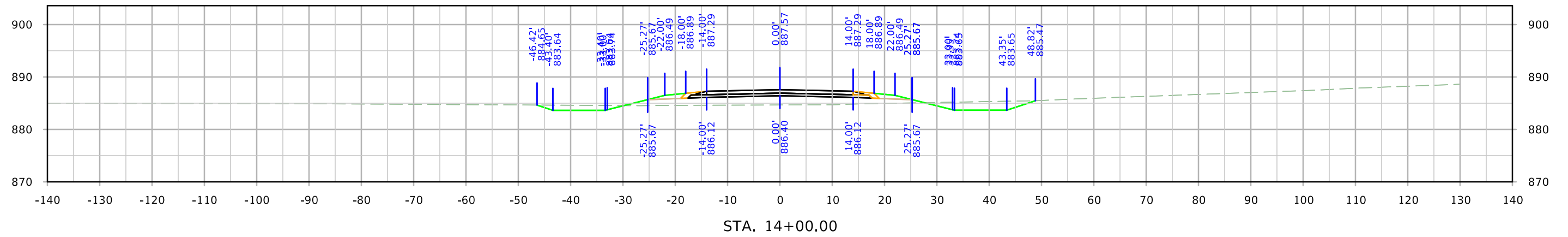
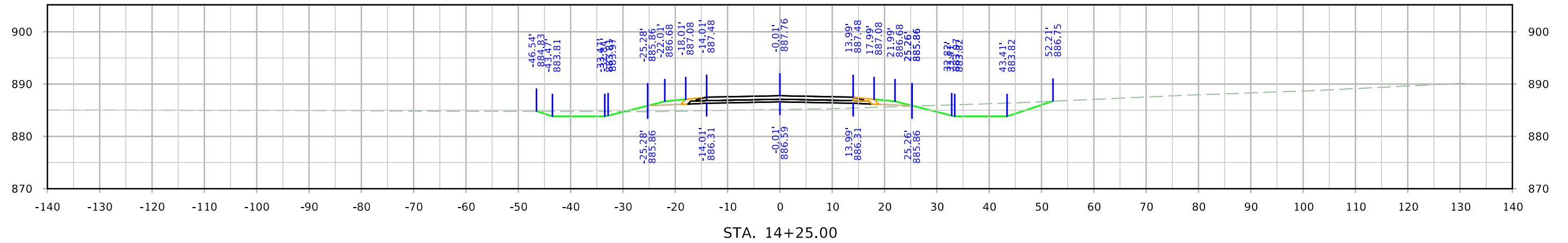


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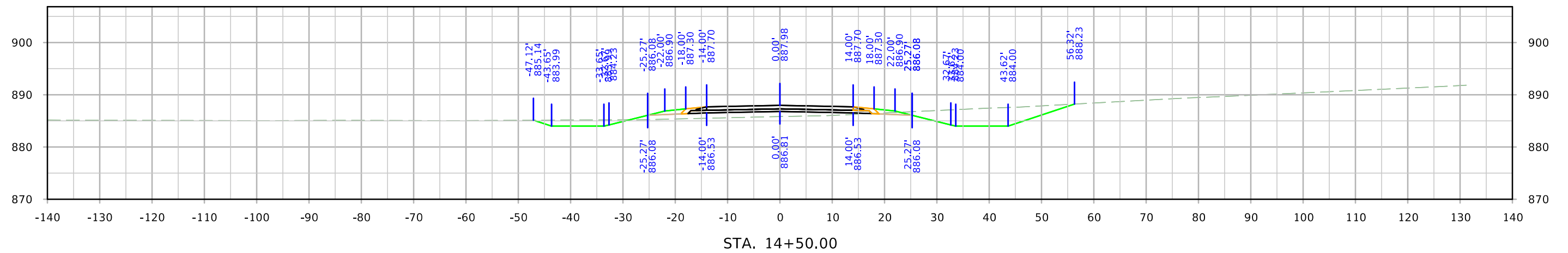
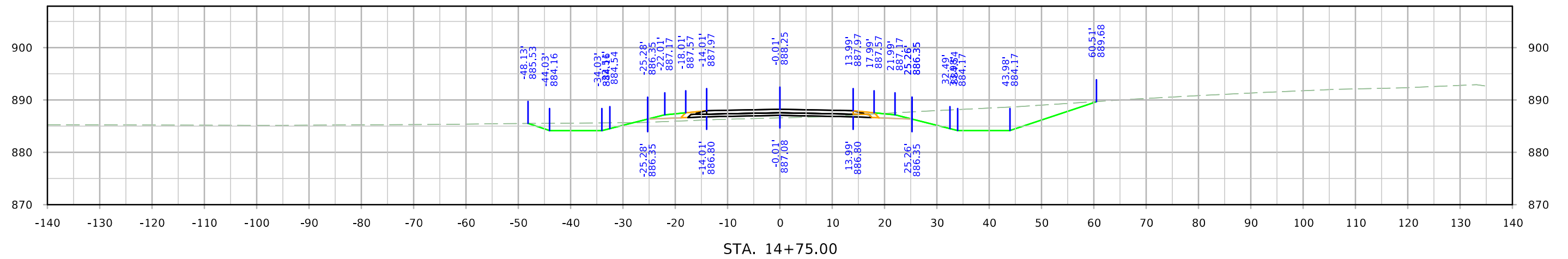
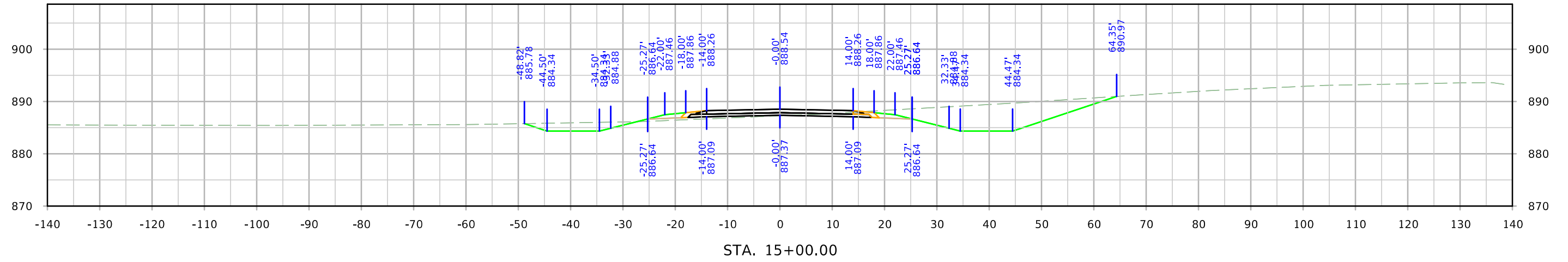




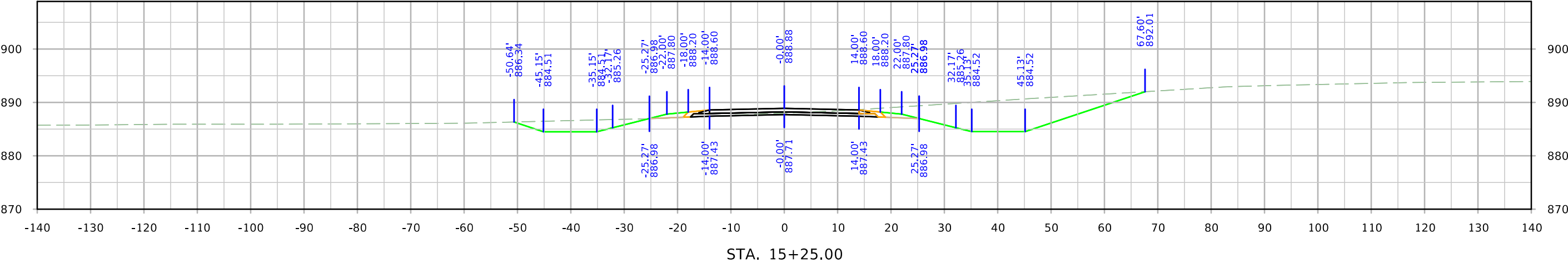
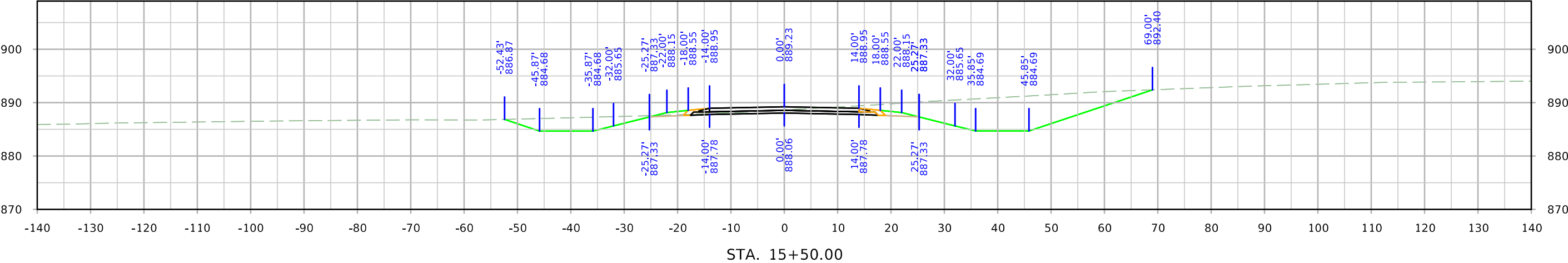
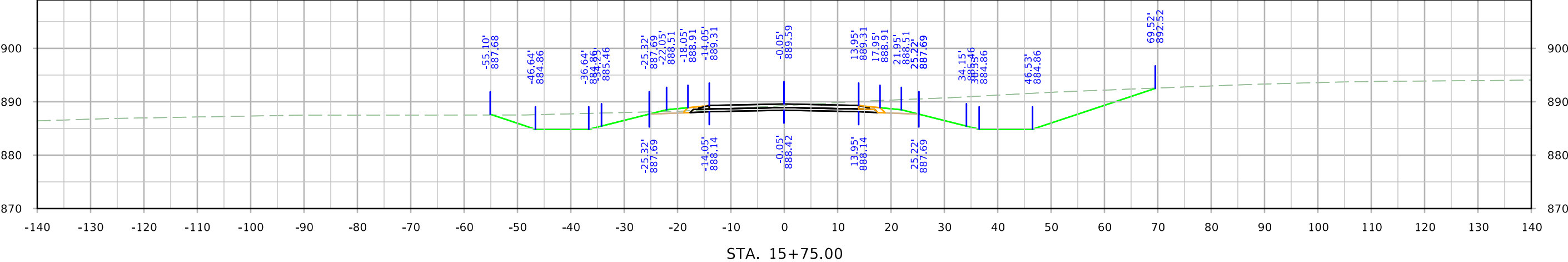
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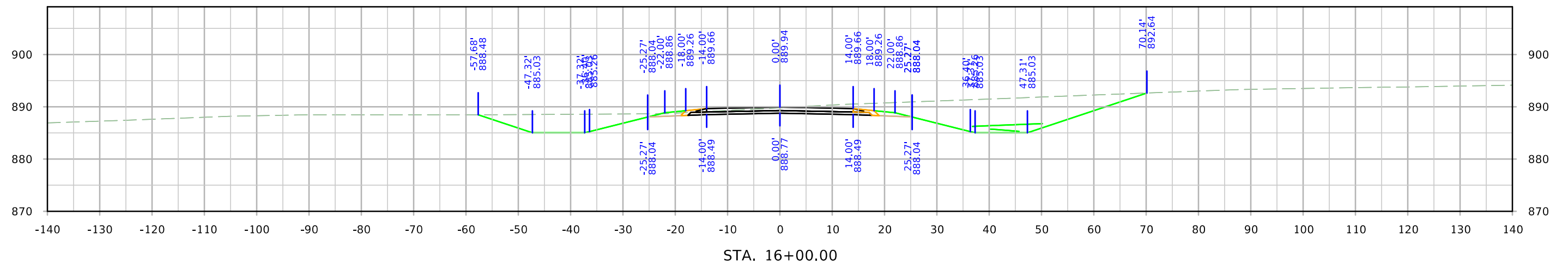
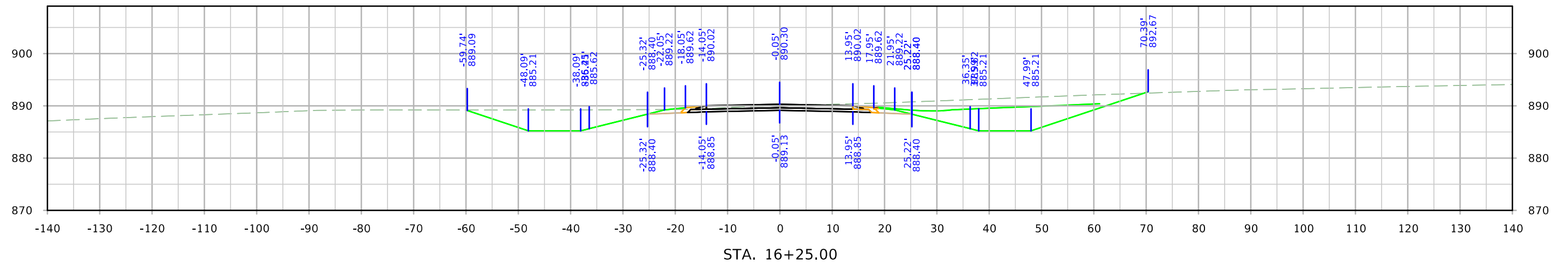
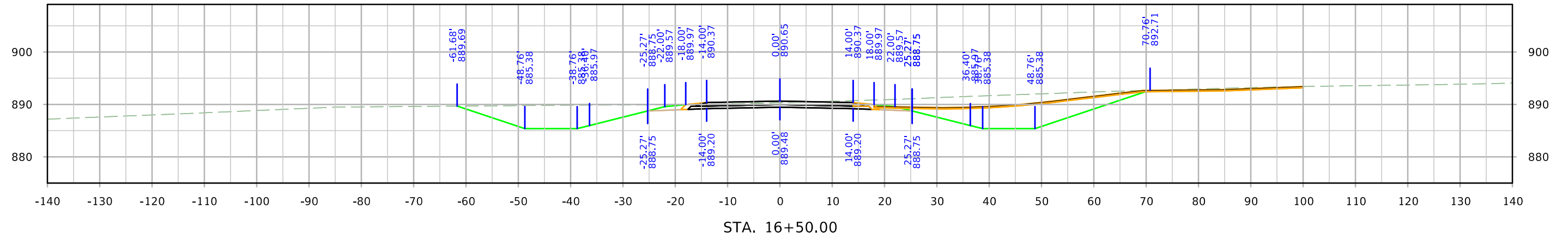
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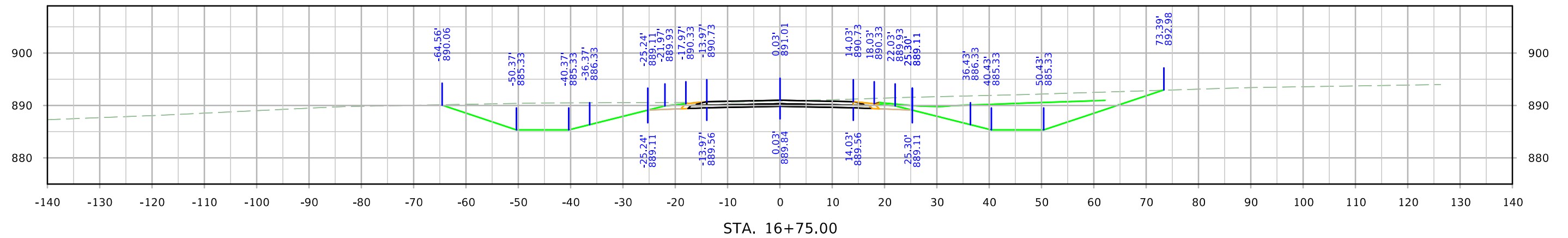
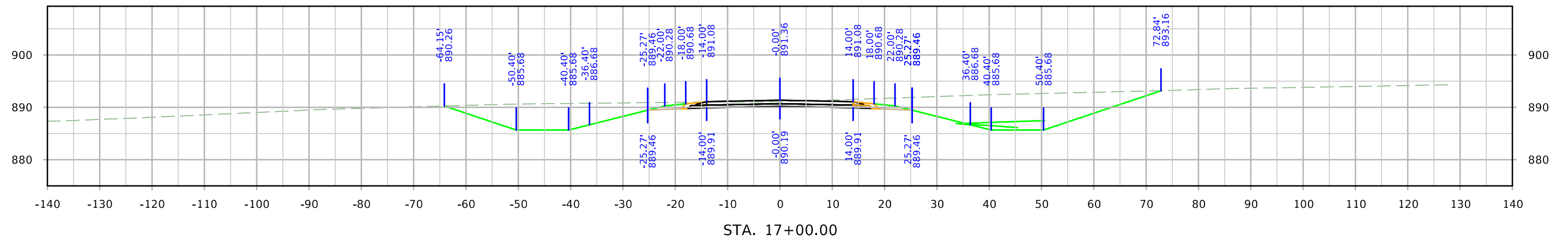
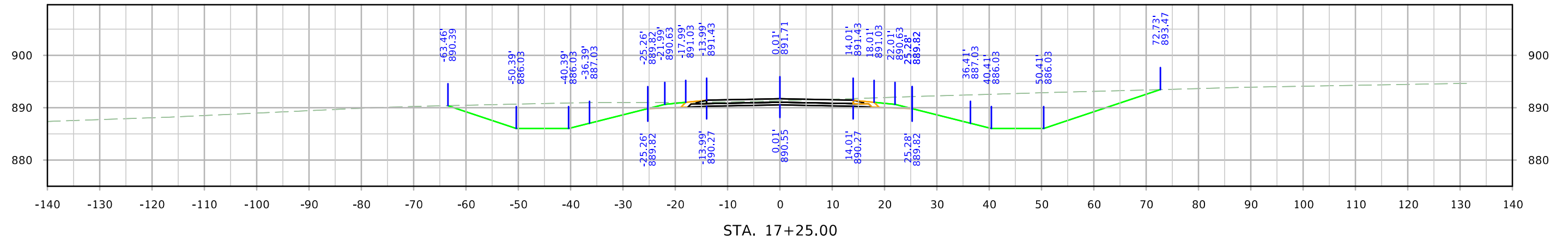
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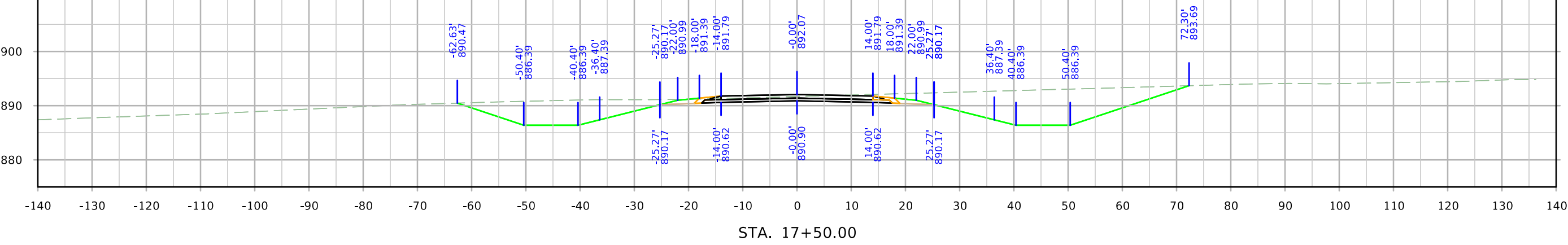
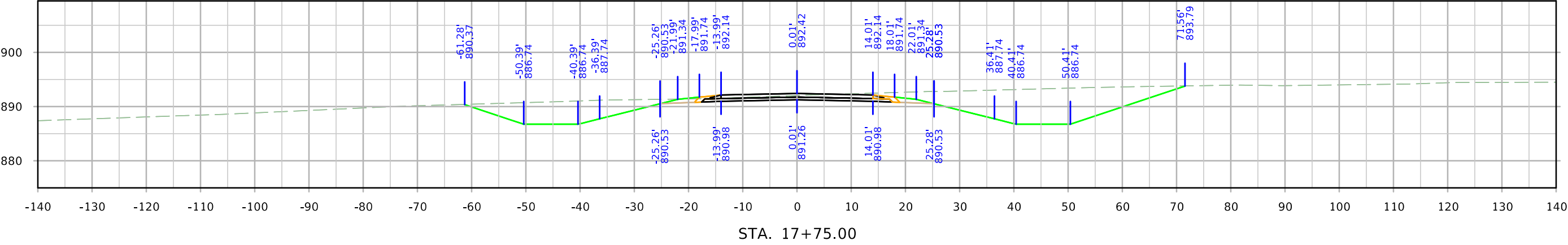
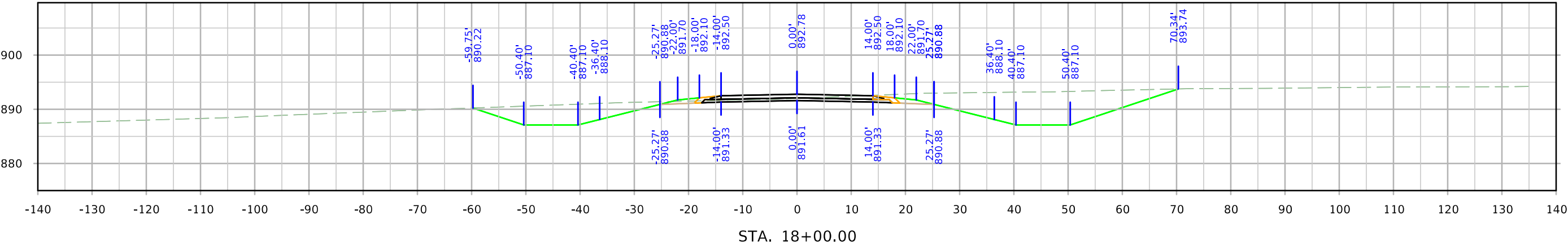
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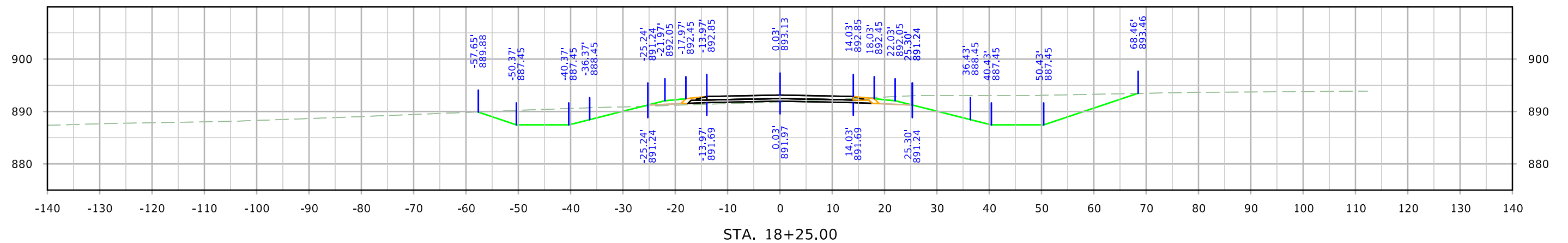
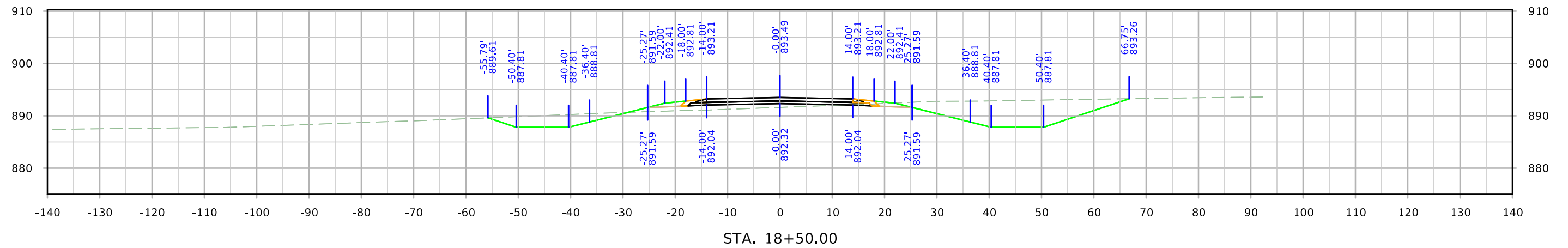
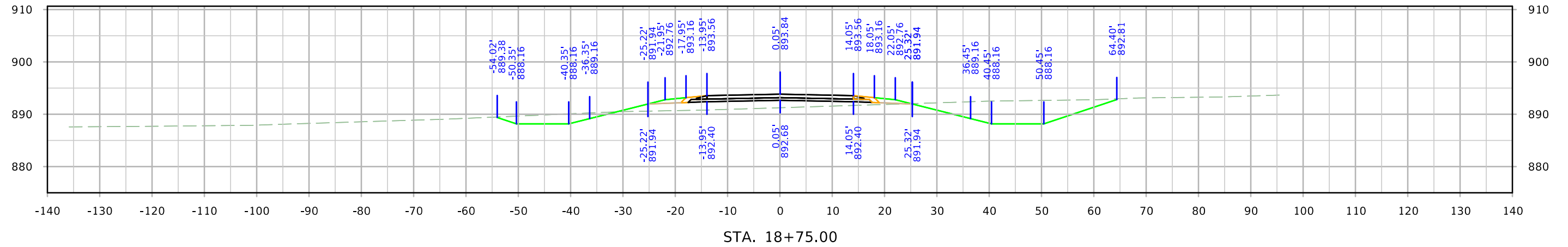
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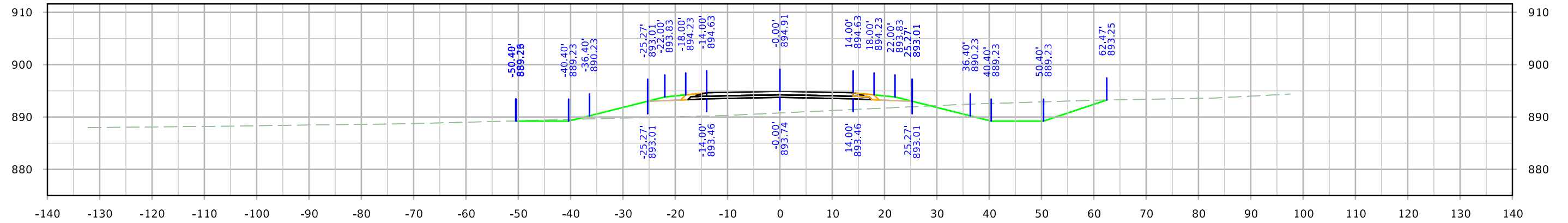
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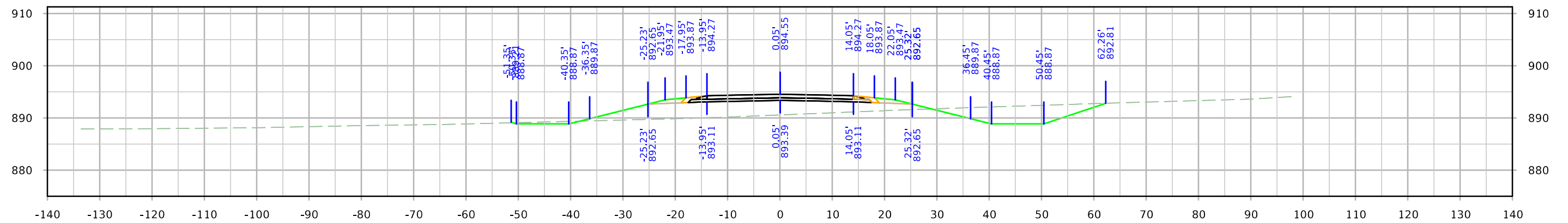
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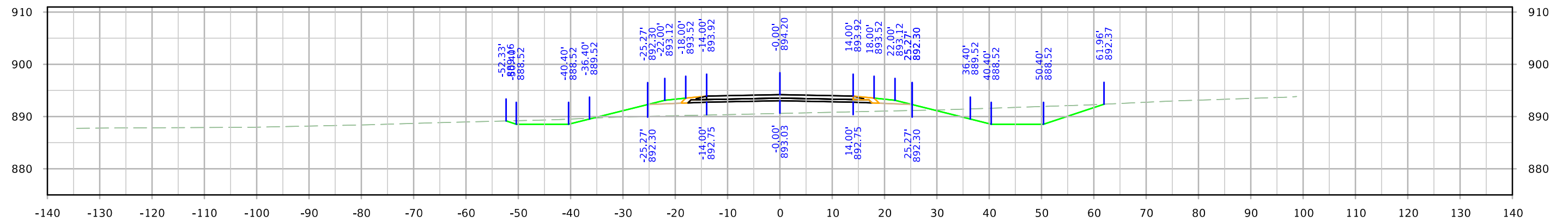
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STA. 19+50.00



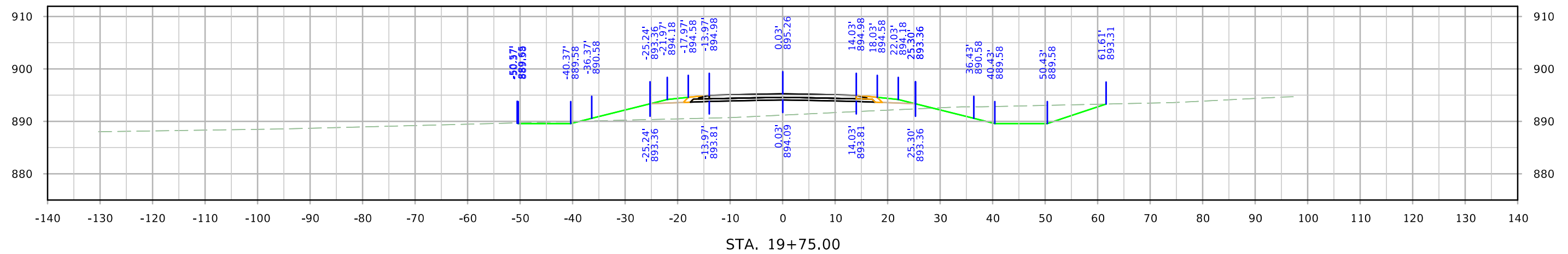
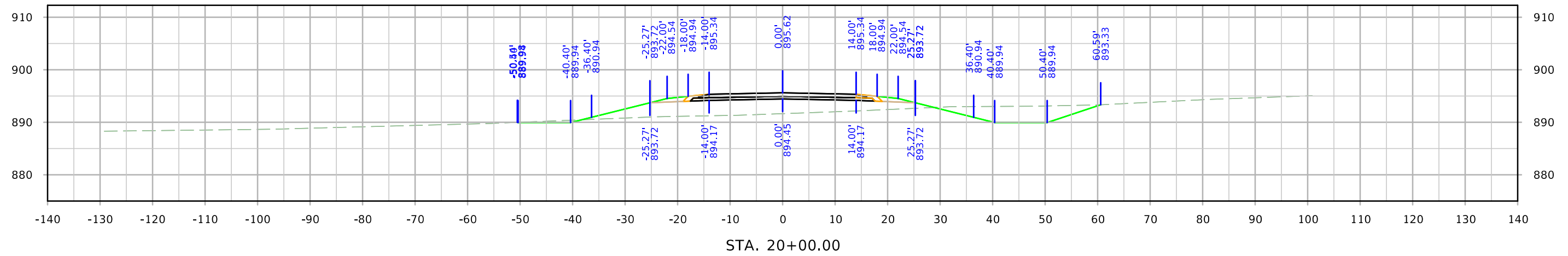
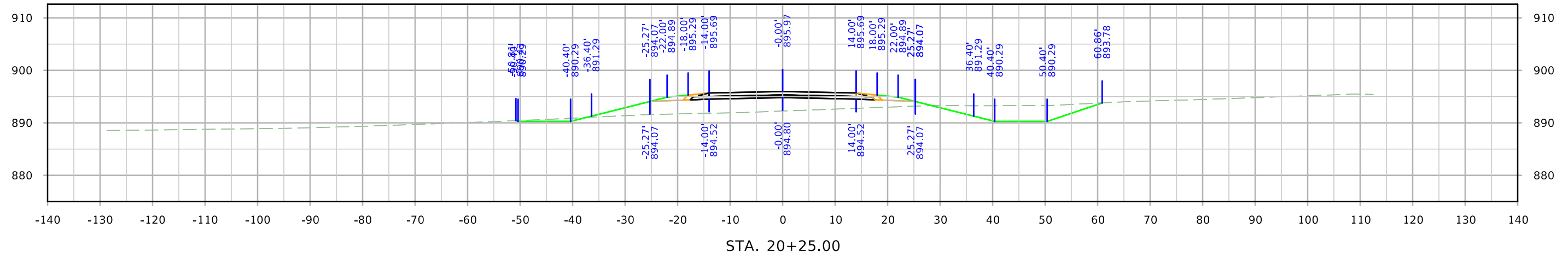
STA. 19+25.00



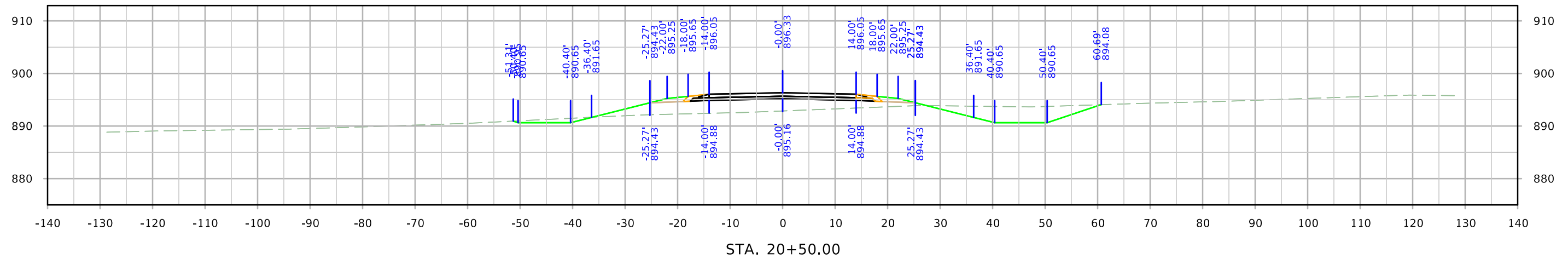
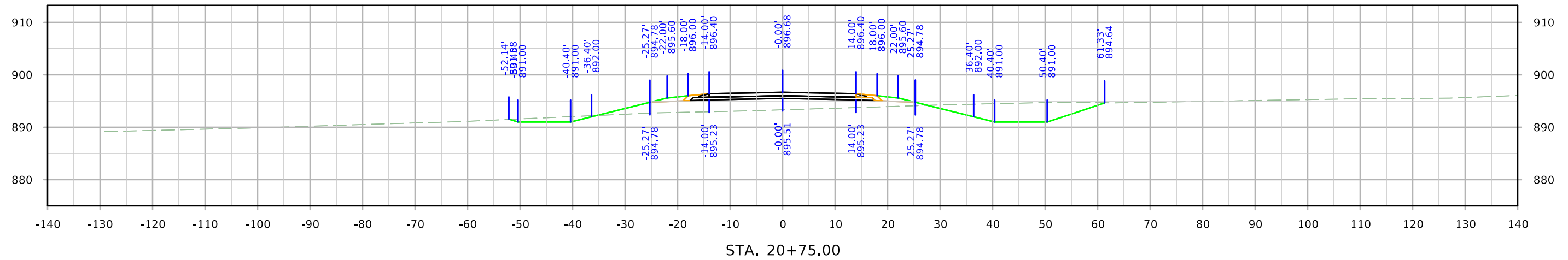
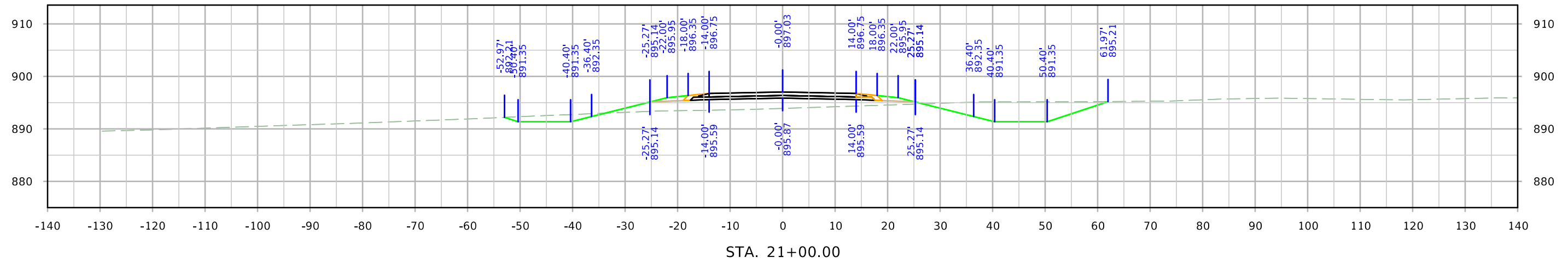
STA. 19+00.00



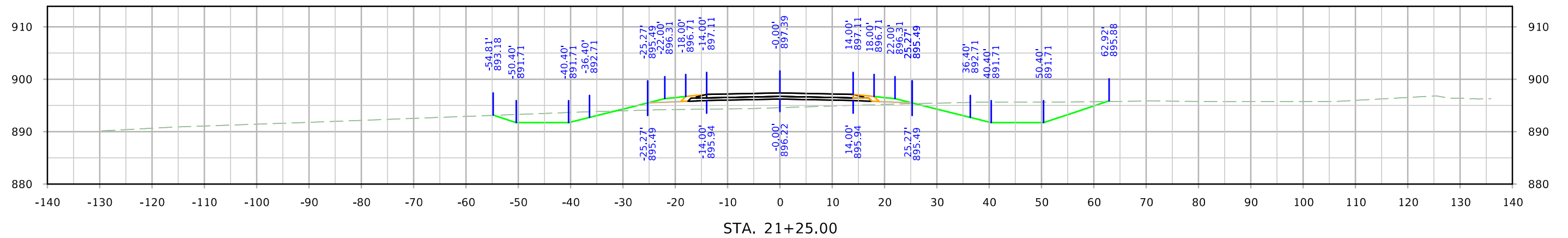
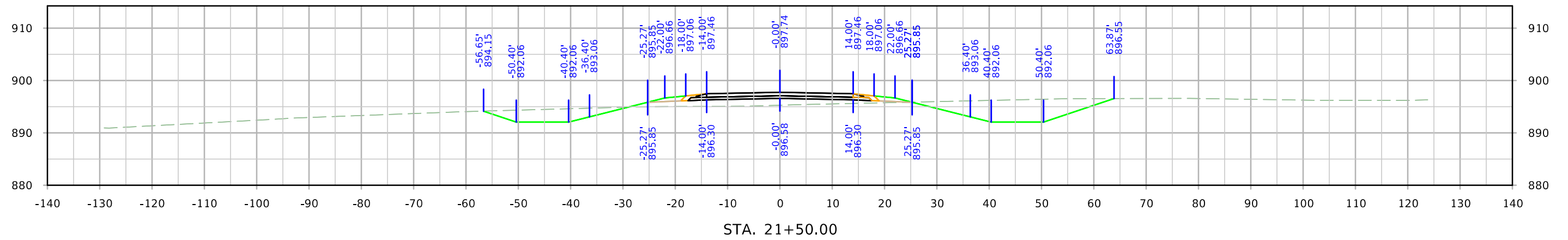
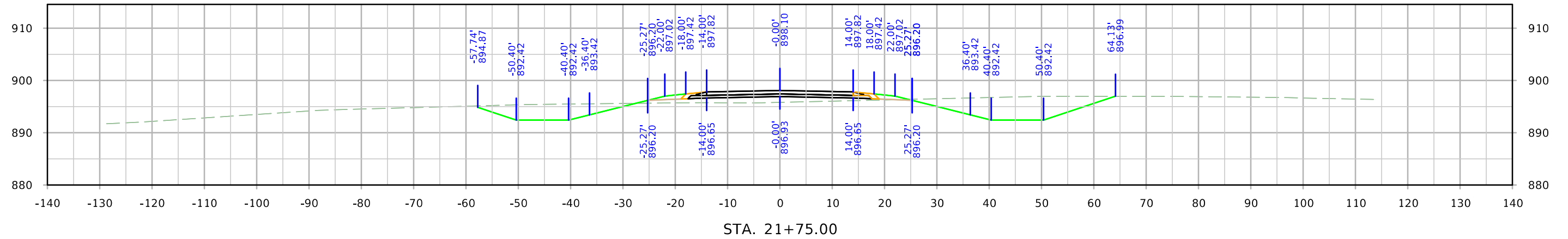
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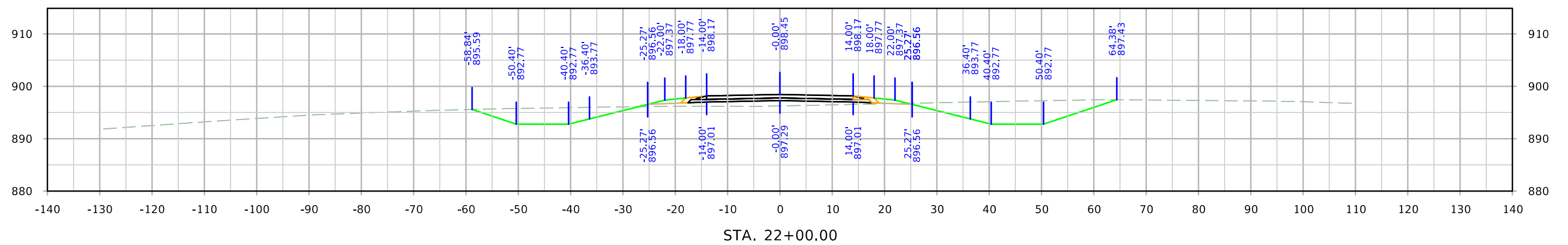
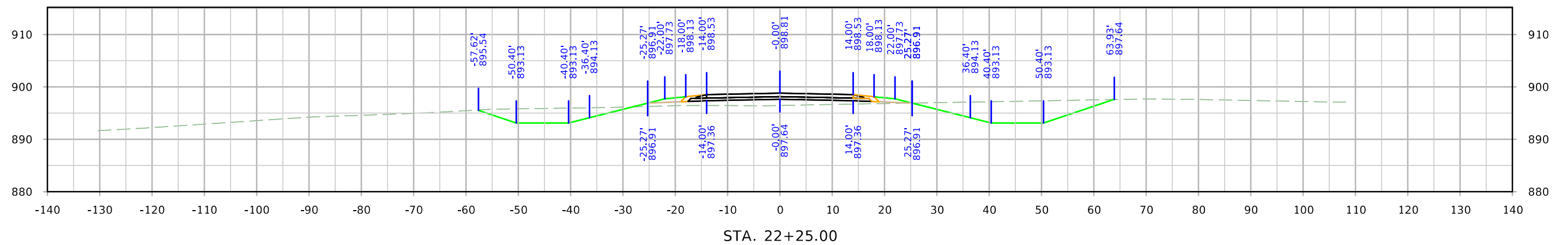
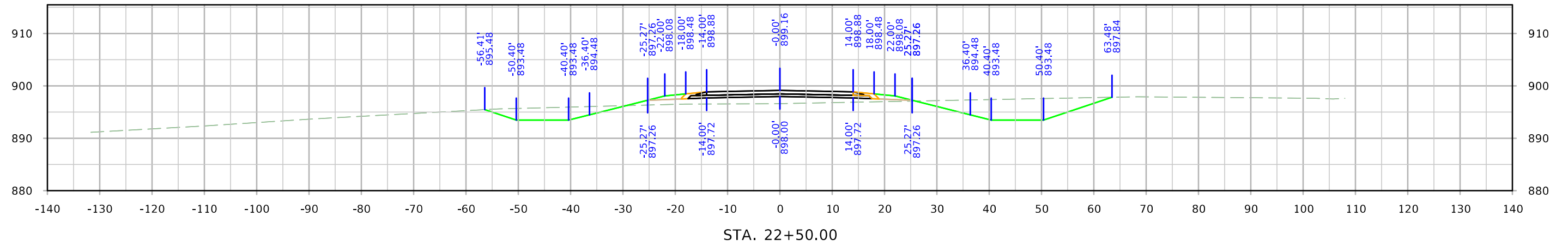
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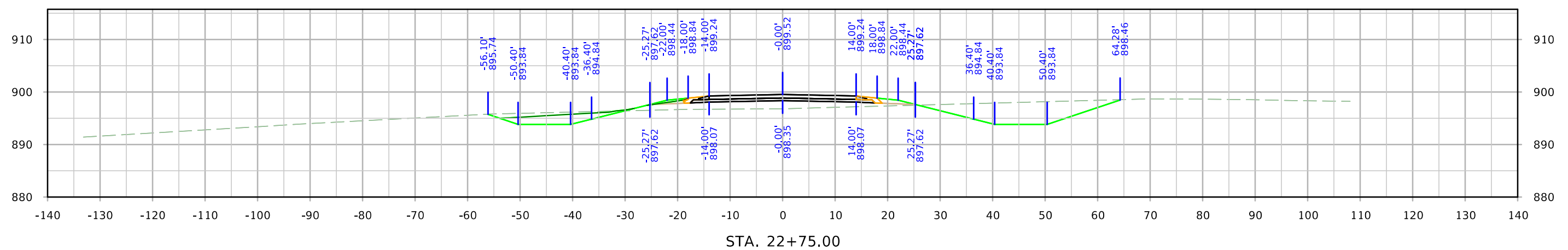
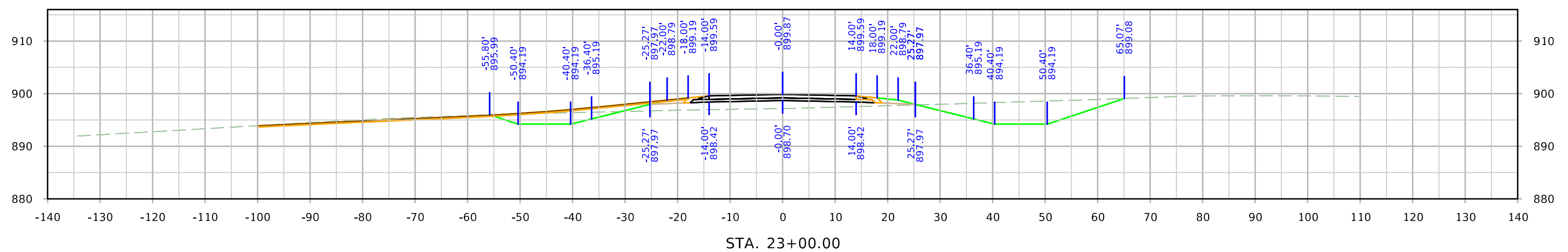
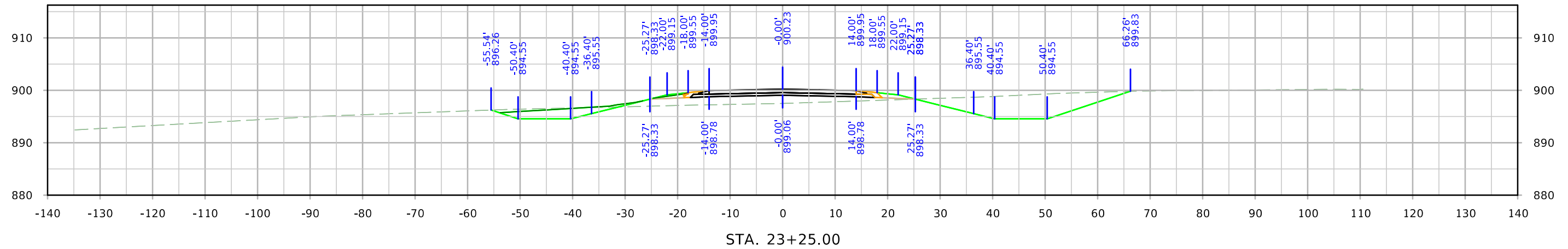
# L AVENUE RELOCATED



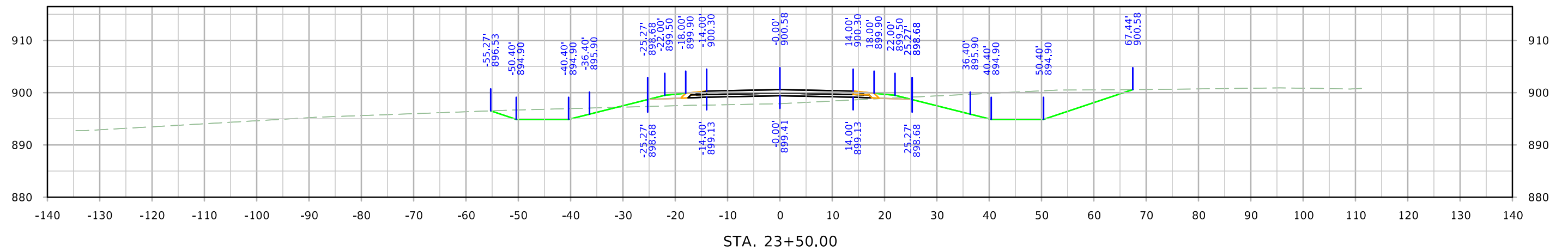
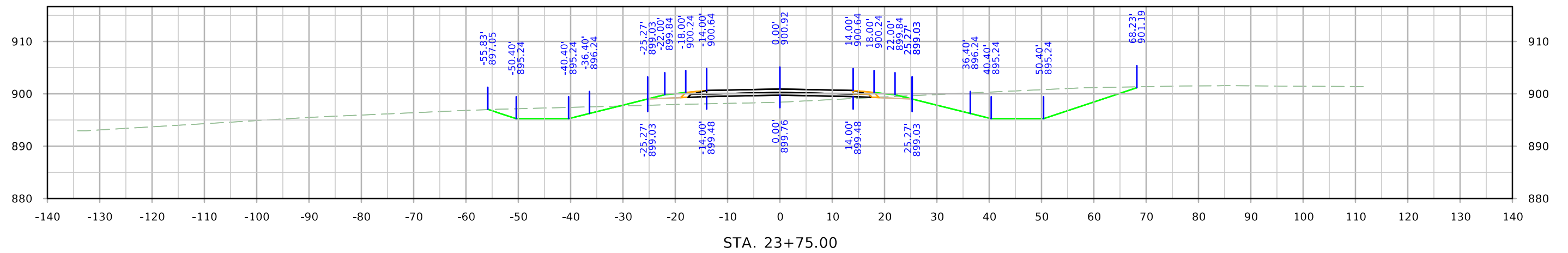
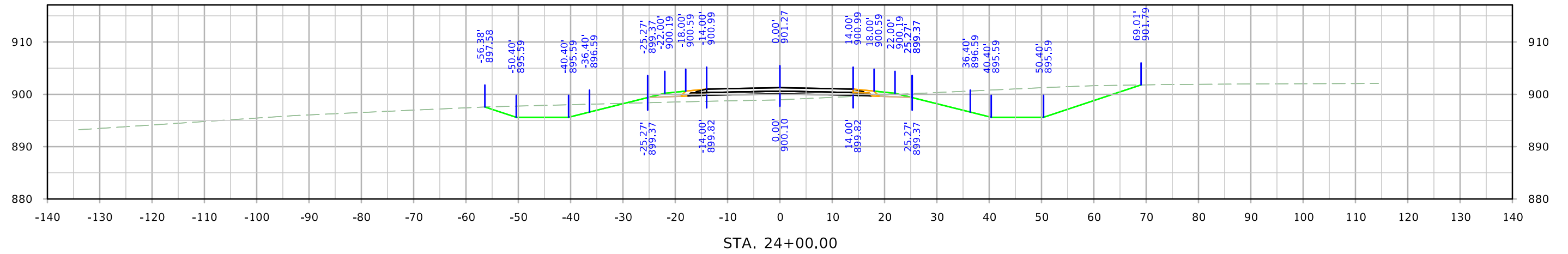
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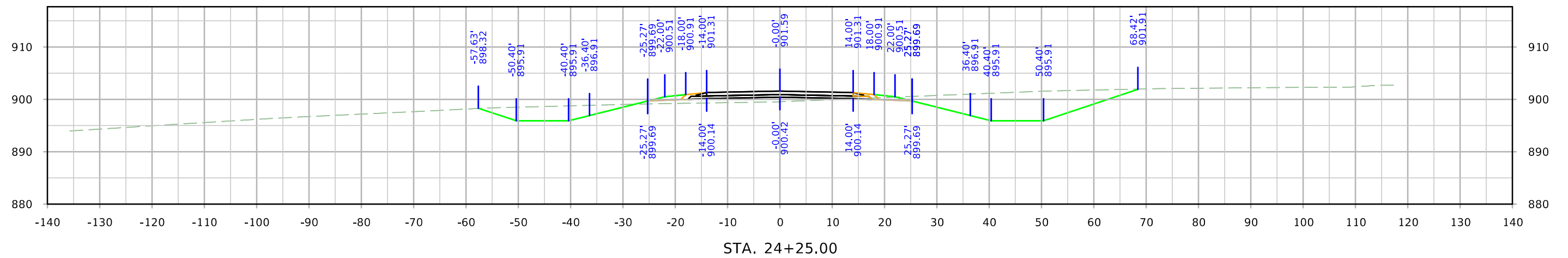
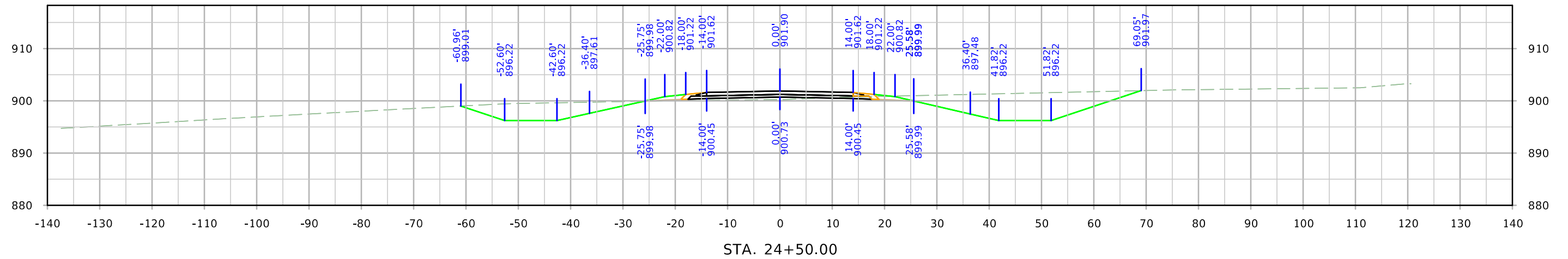
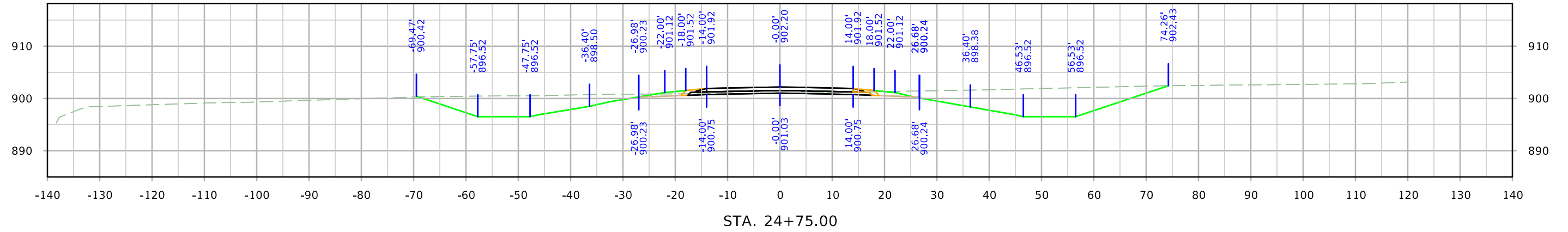
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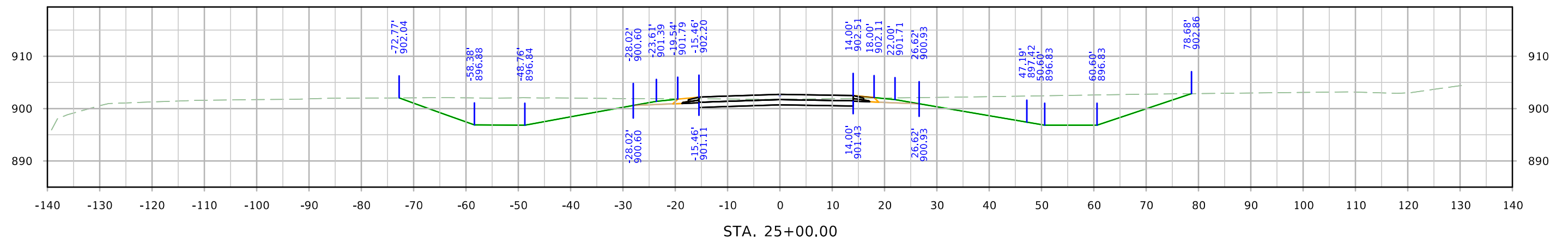
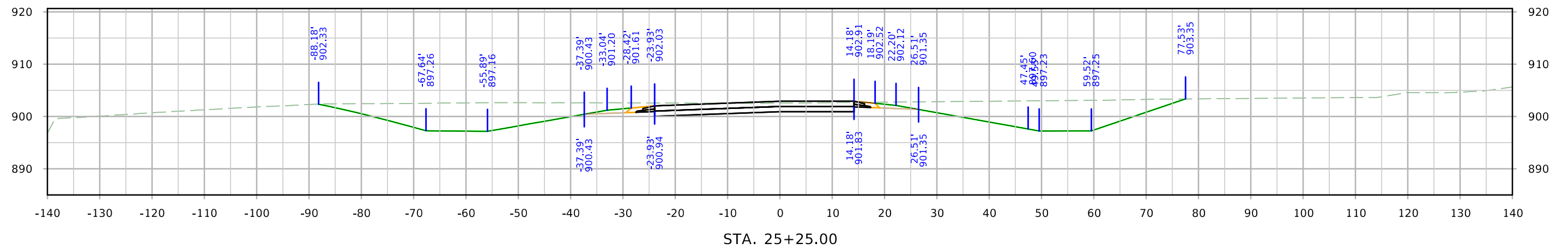
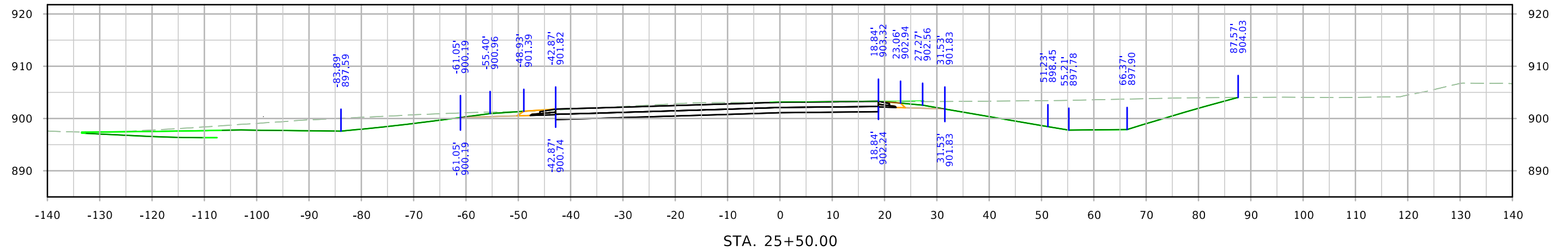
# L AVENUE RELOCATED



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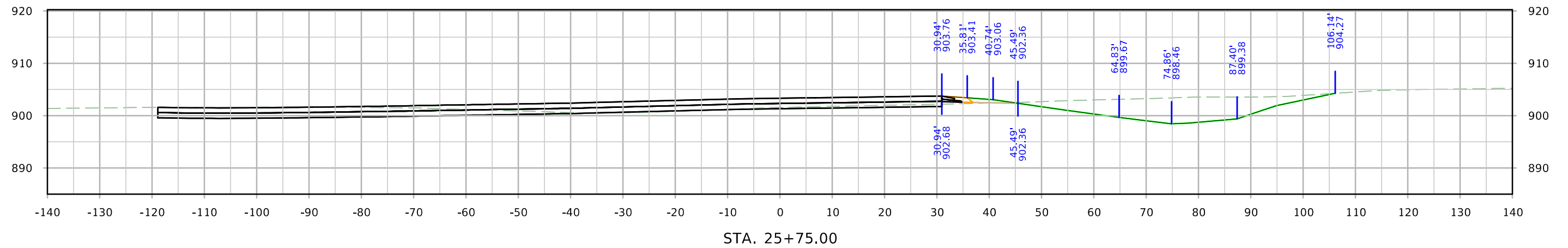
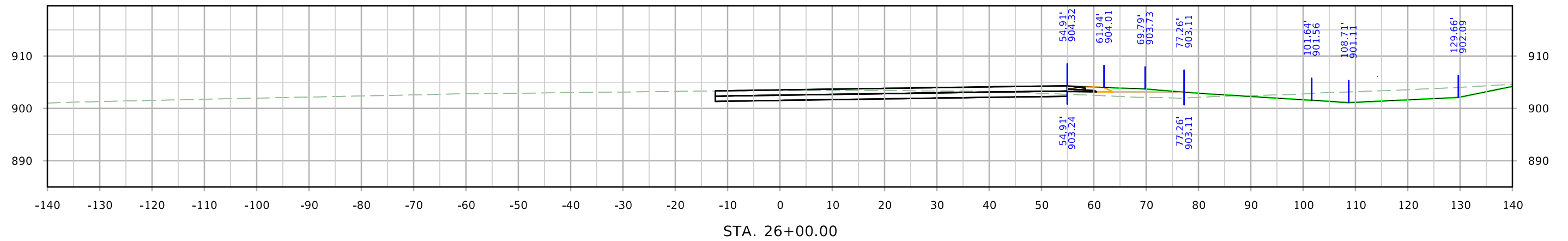
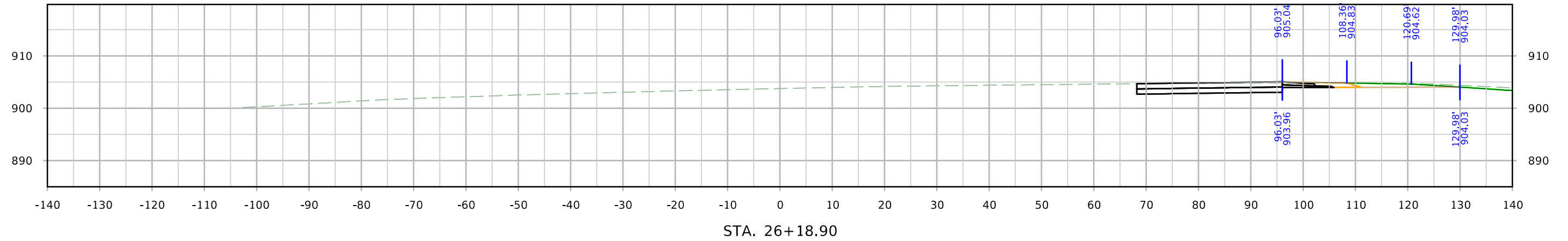


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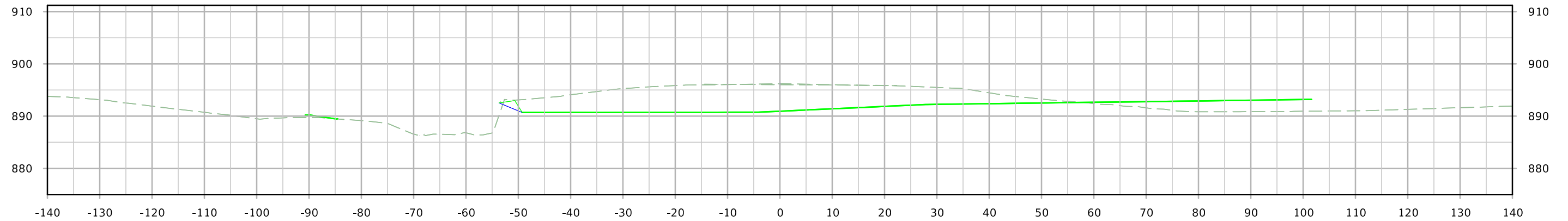




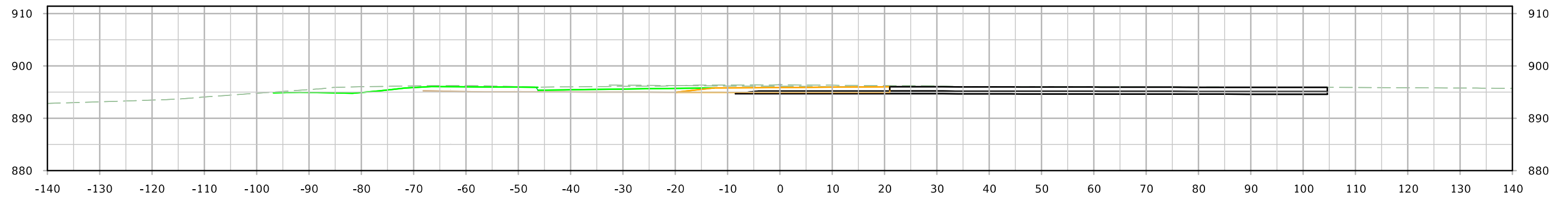
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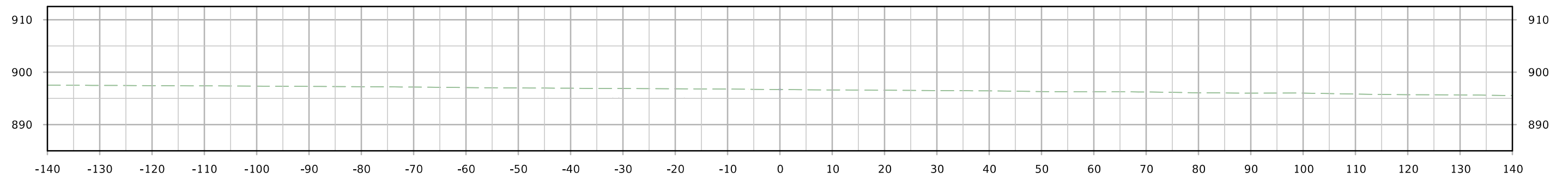
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STA. 311+50.00

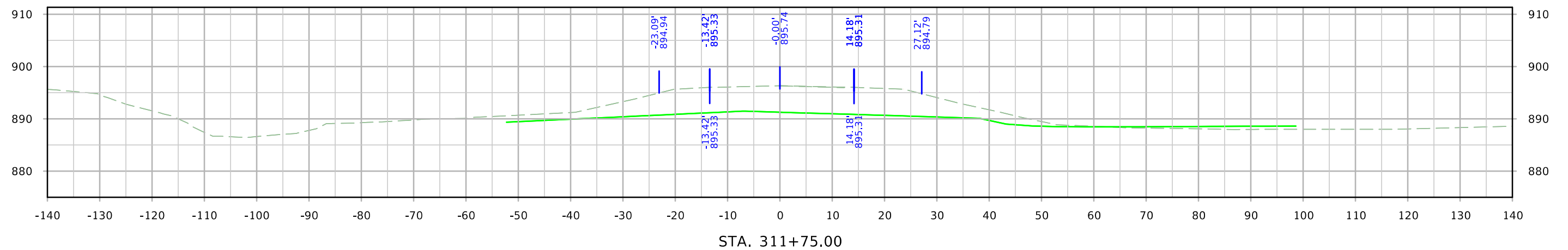
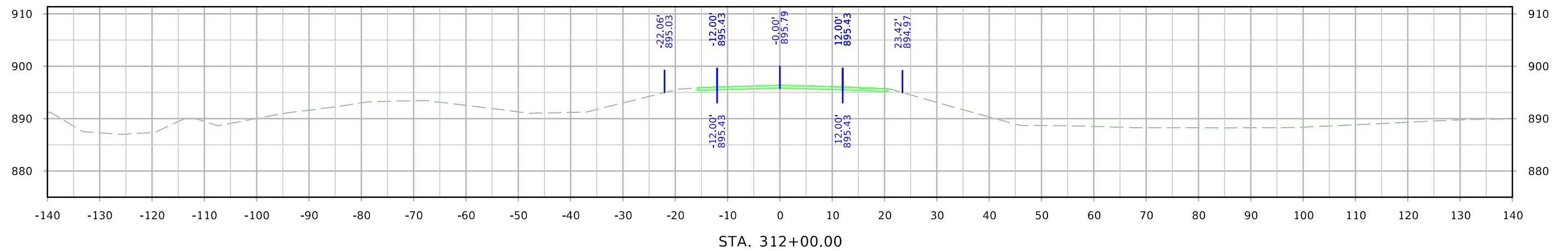
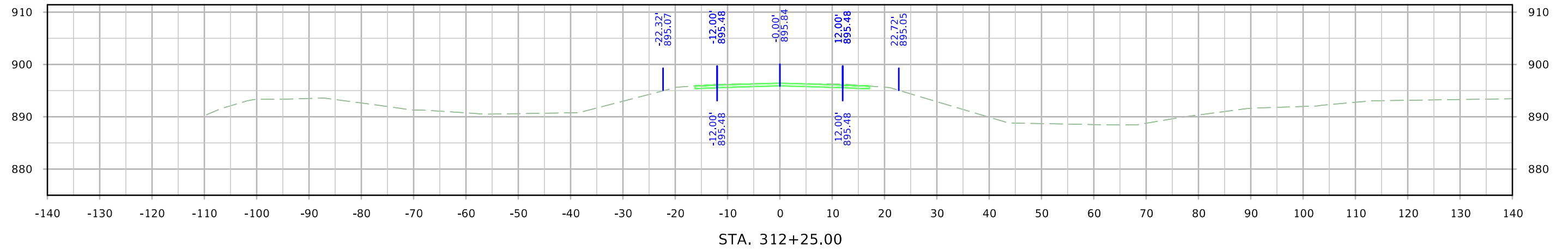


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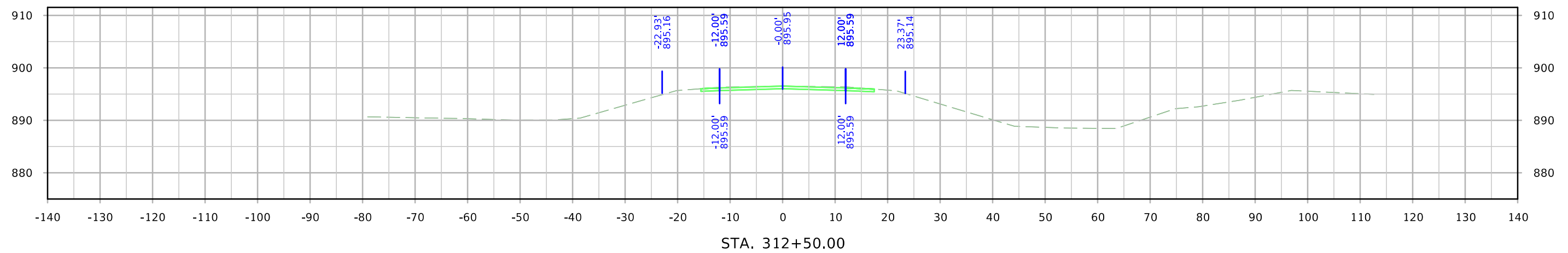
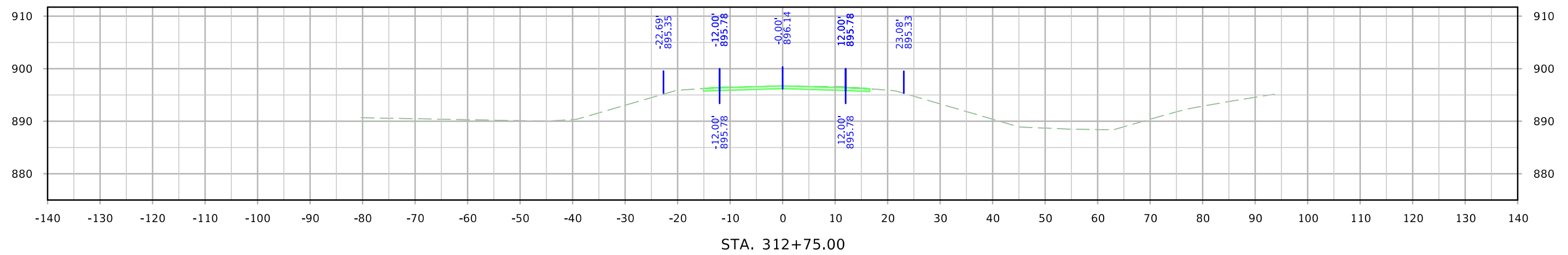
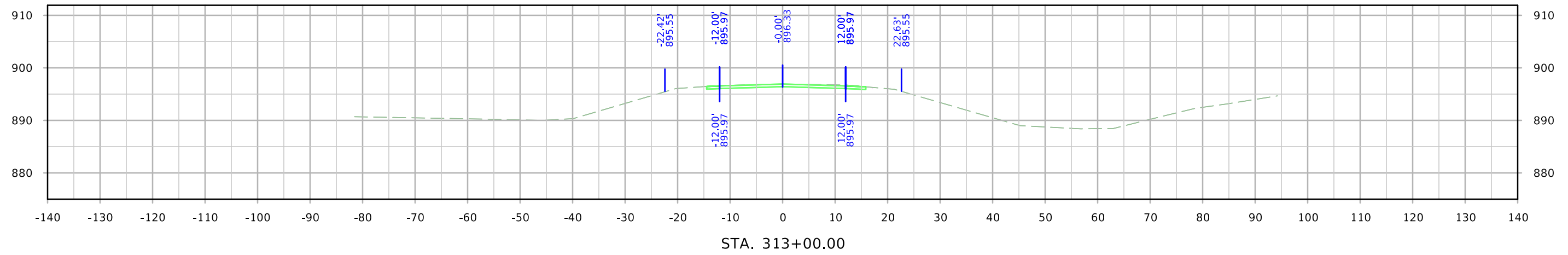


STA. 311+00.00

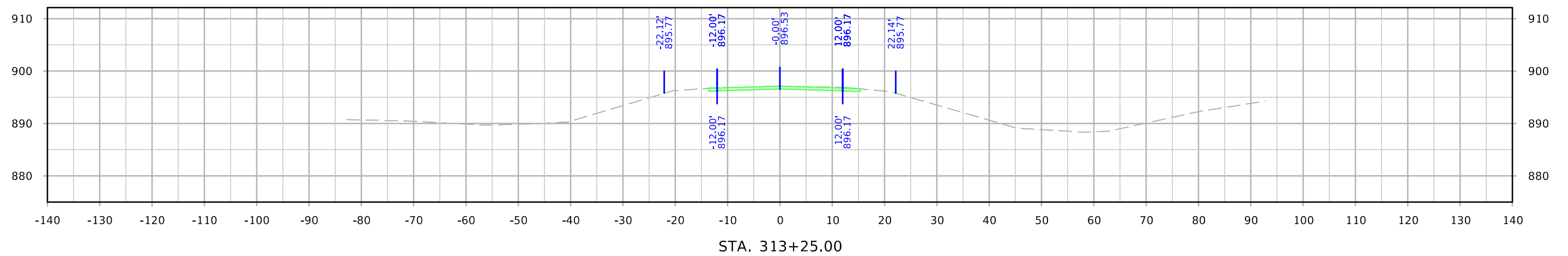
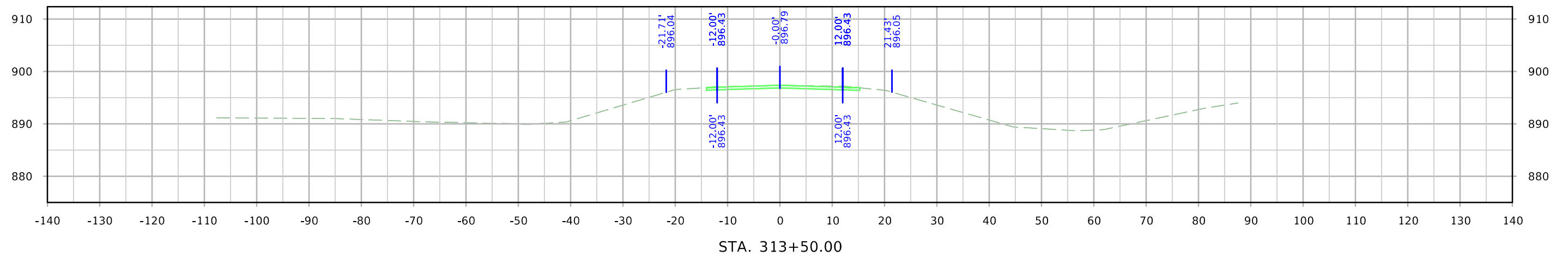
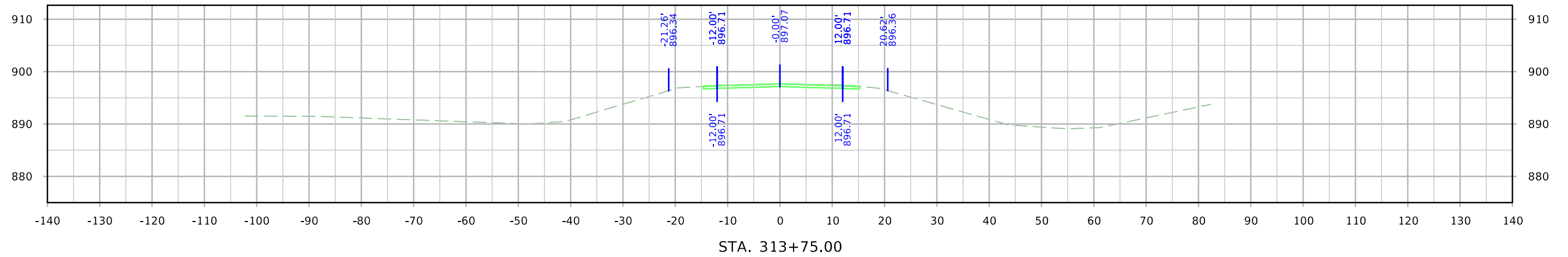
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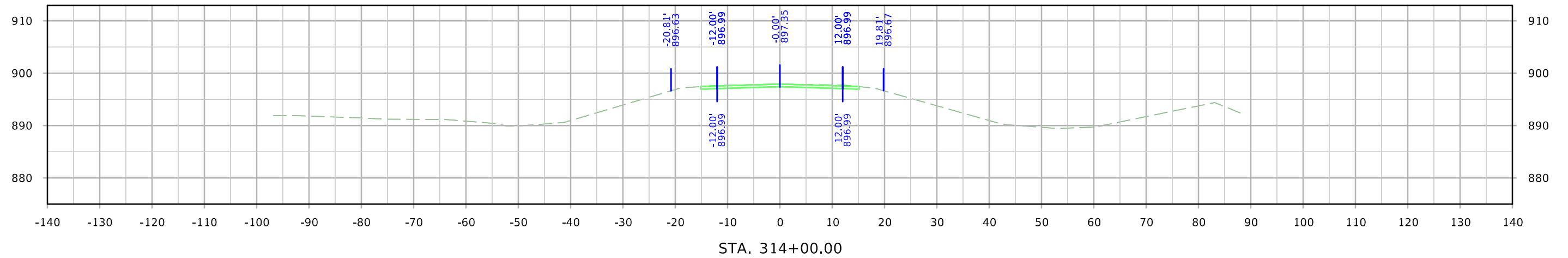
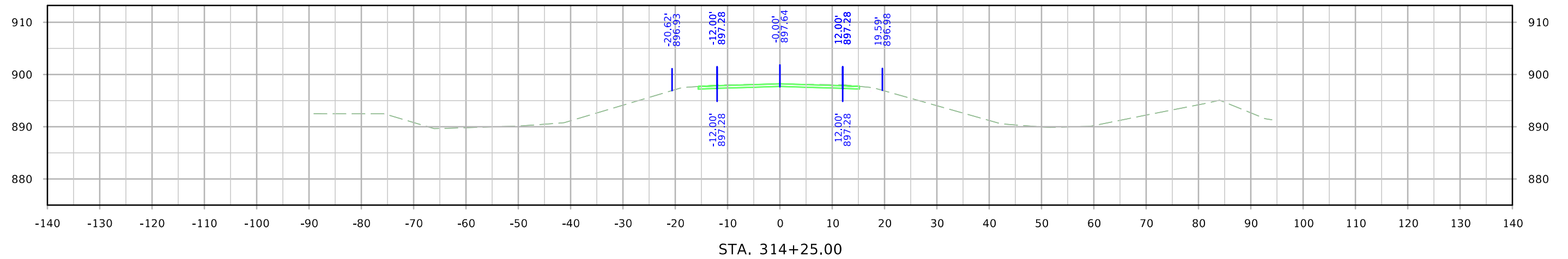
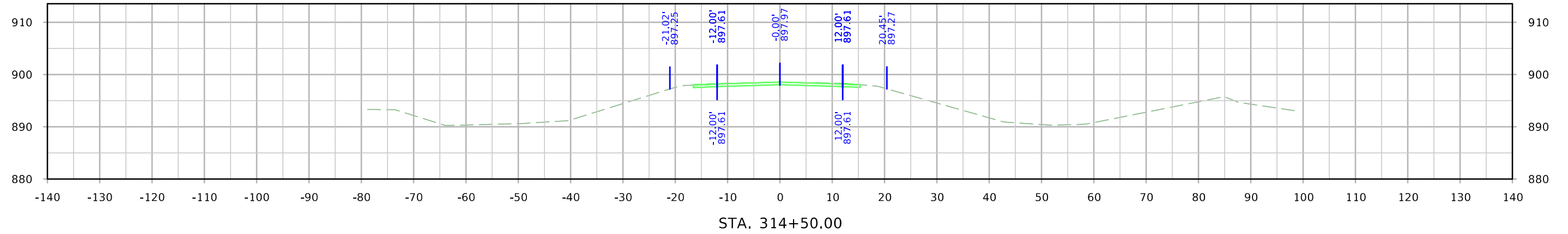
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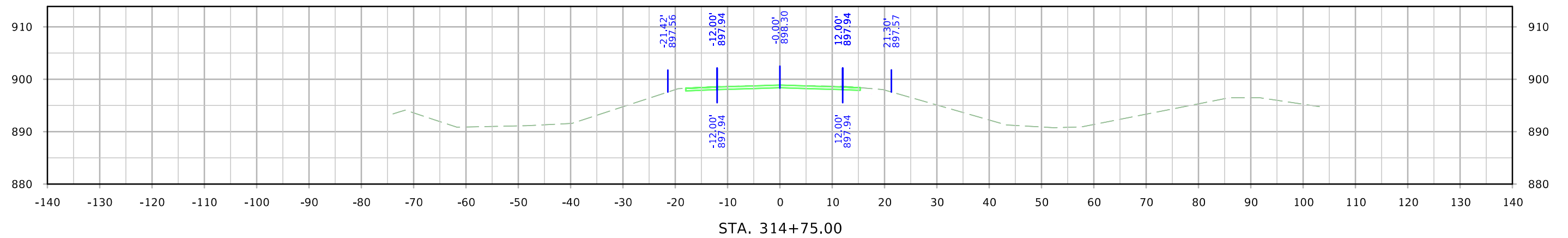
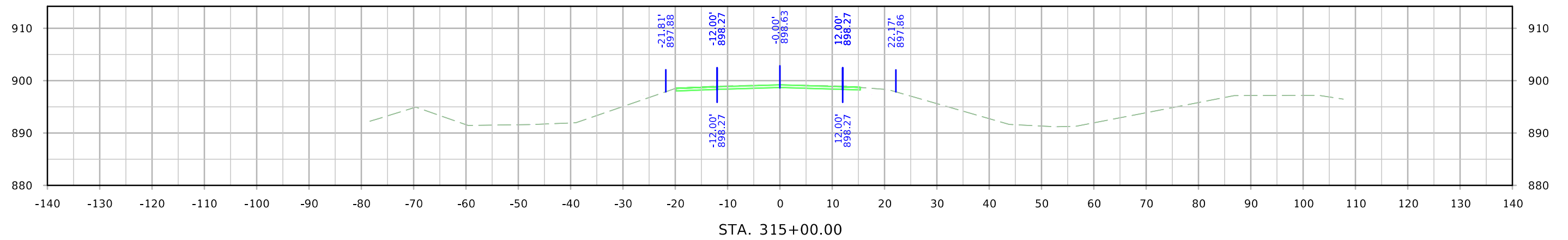
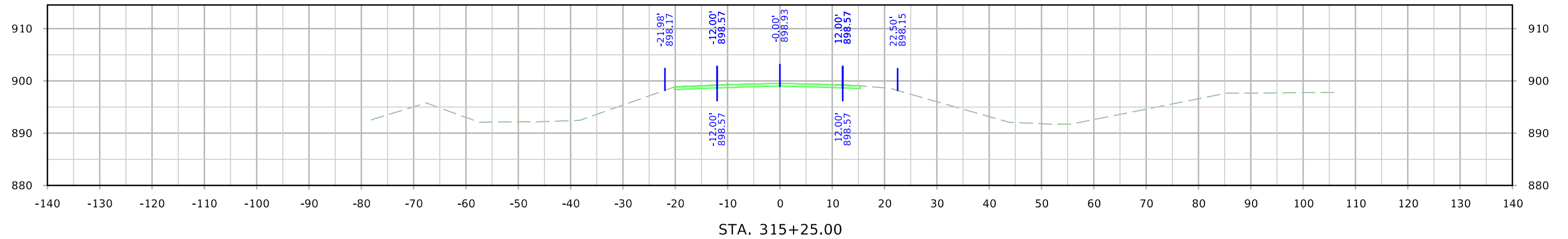
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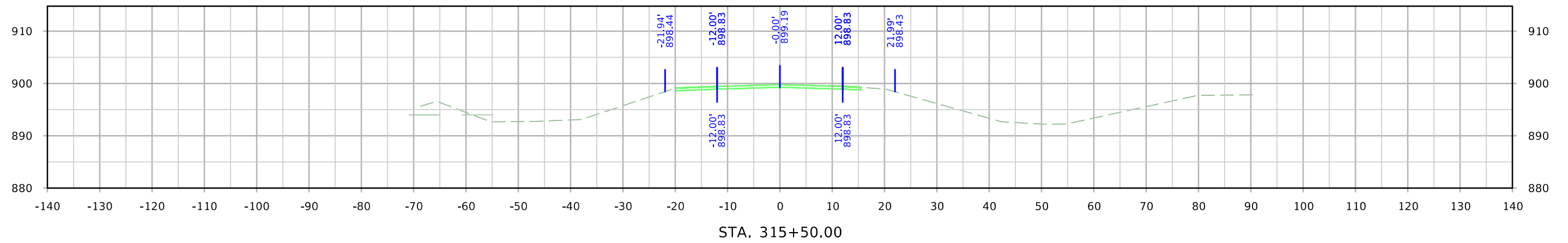
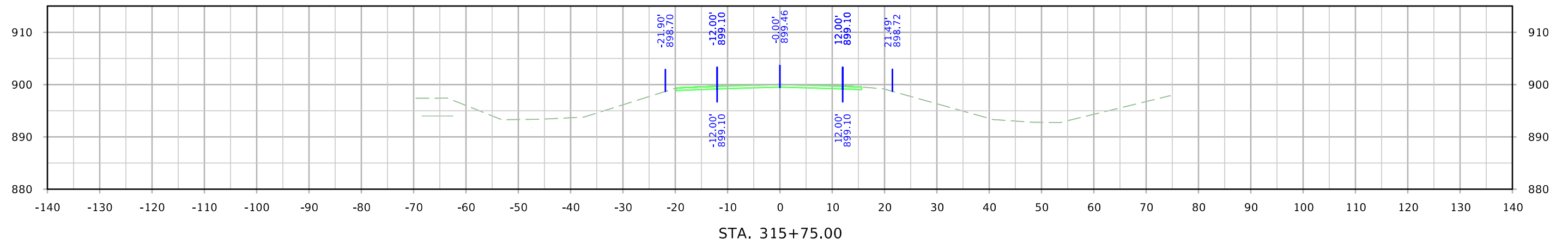
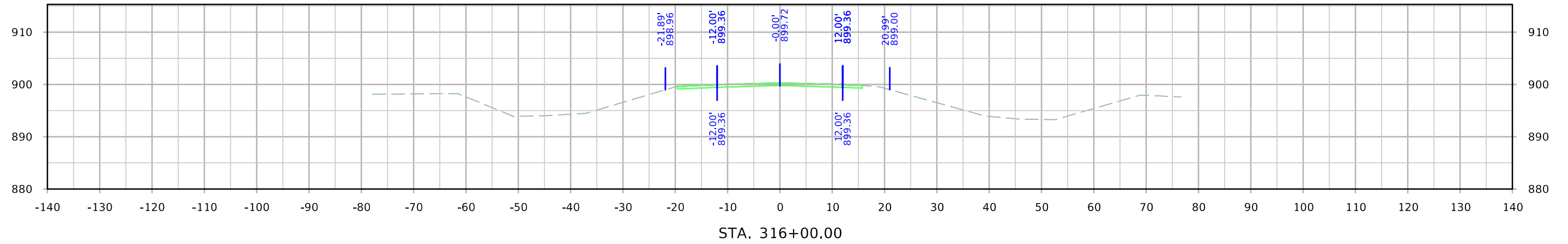
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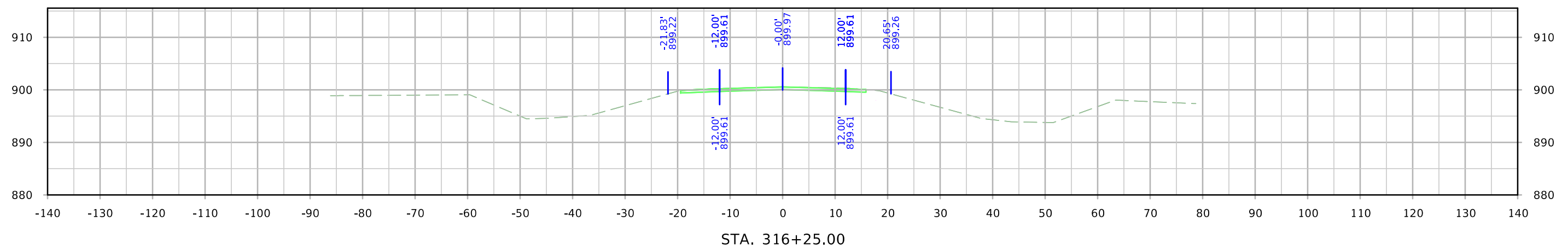
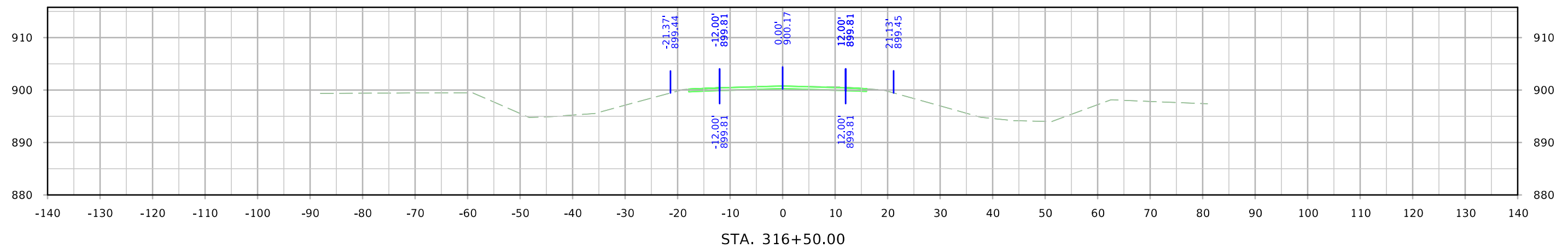
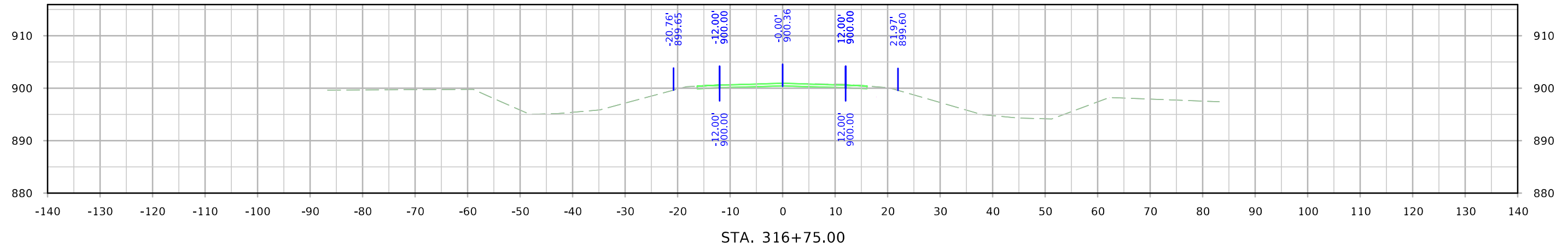


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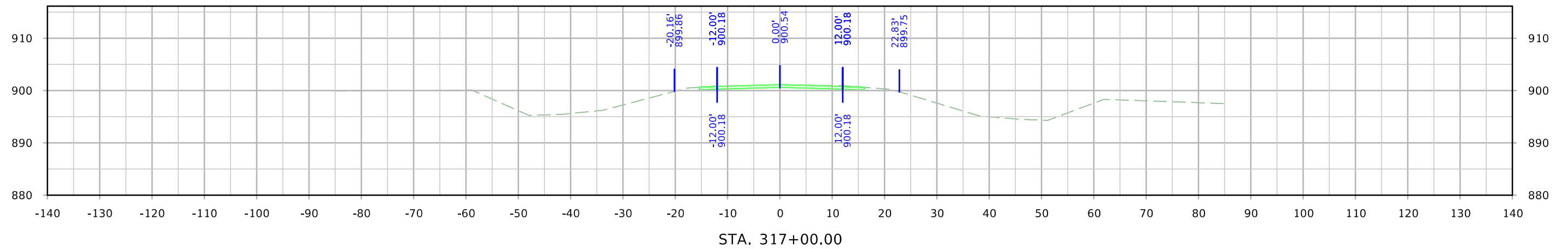
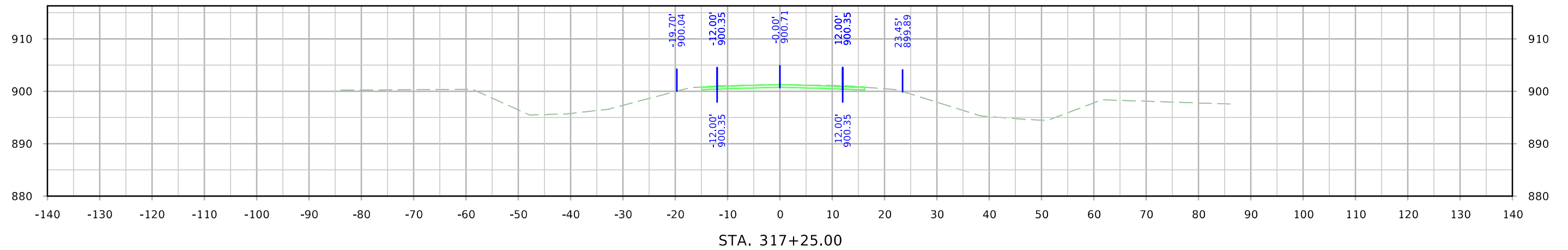
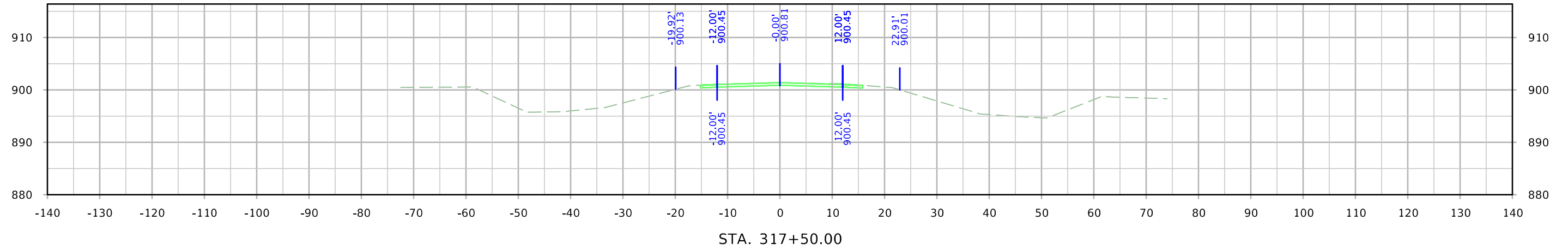




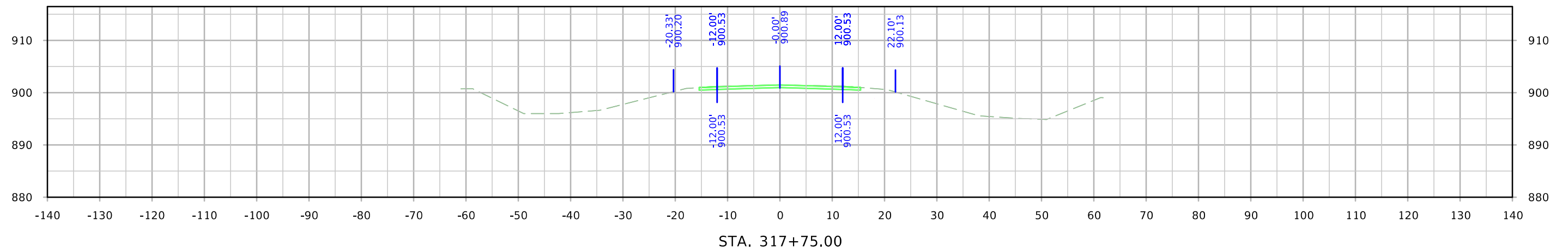
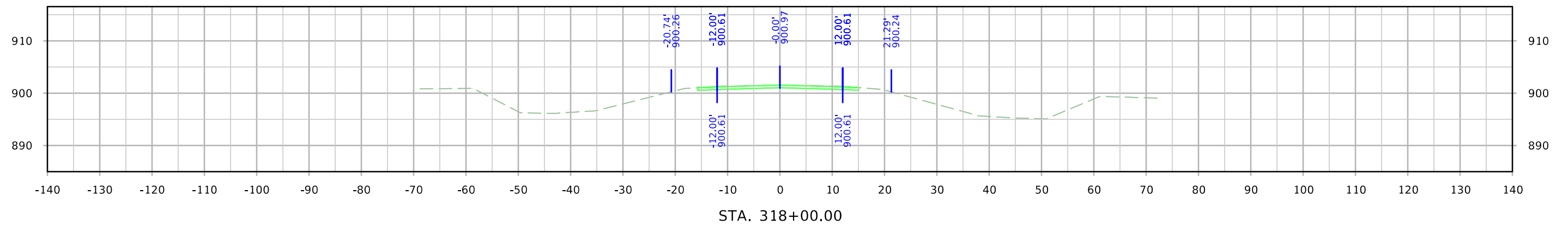
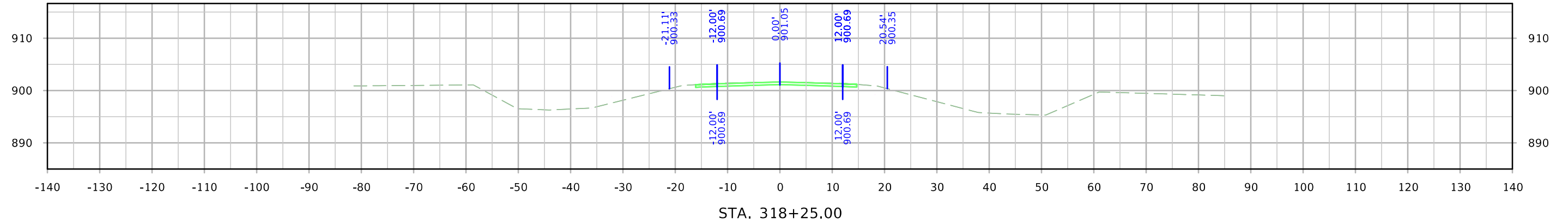
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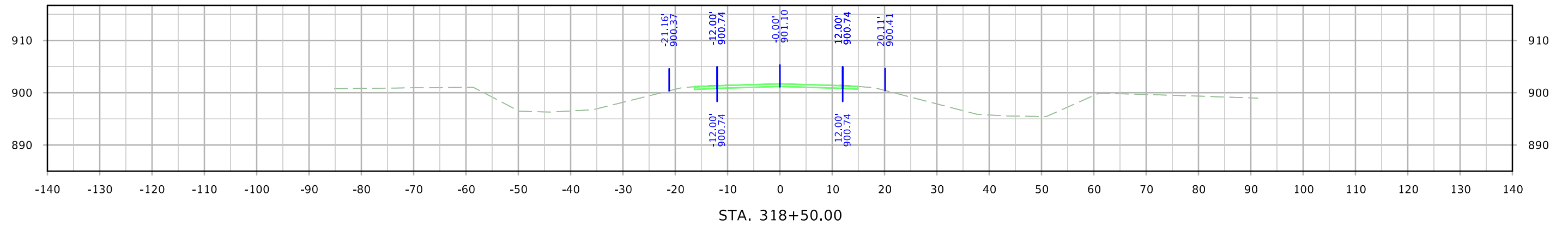
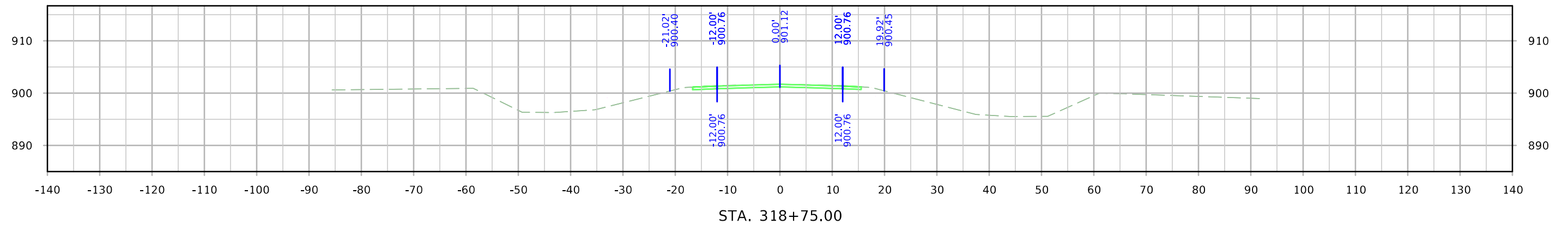
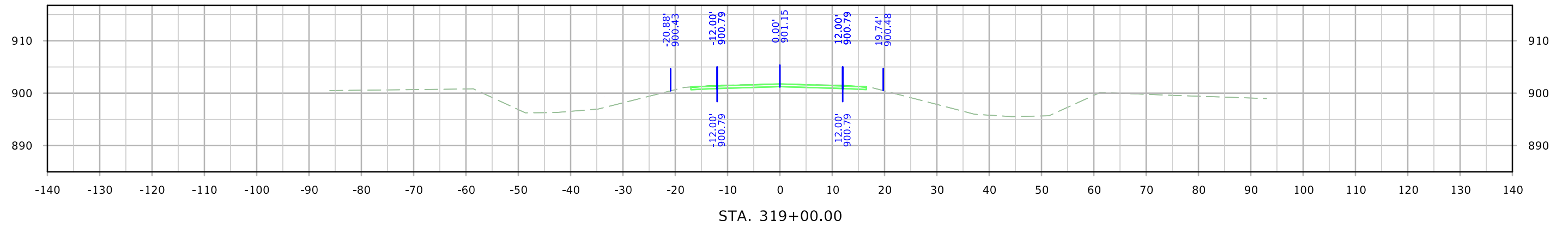
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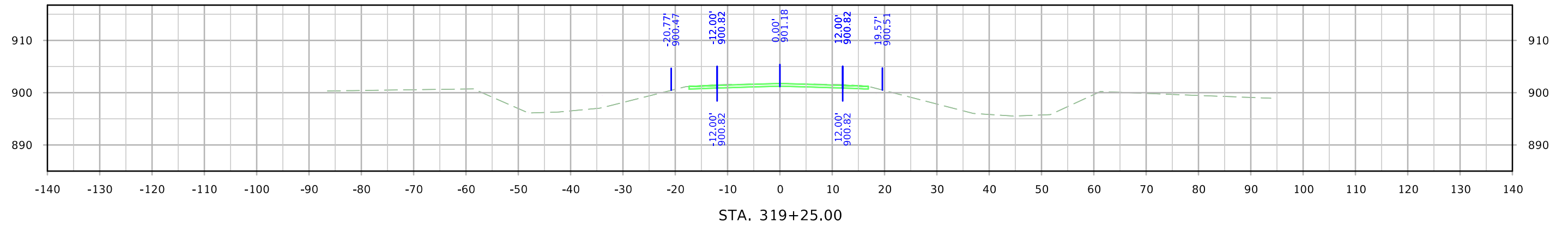
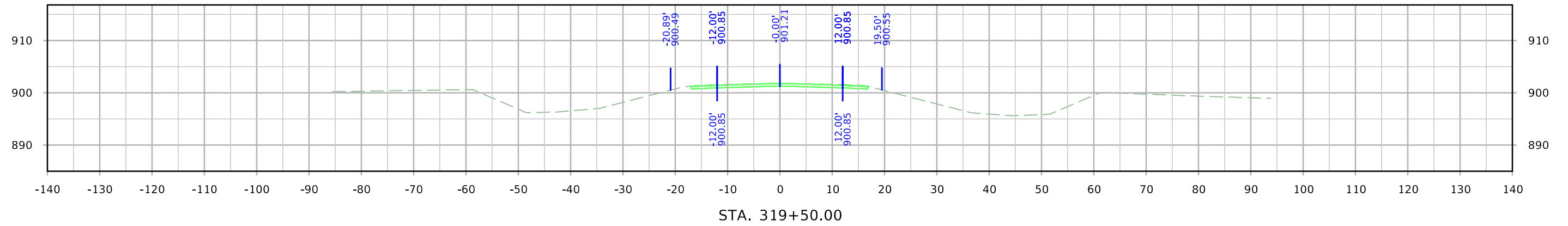
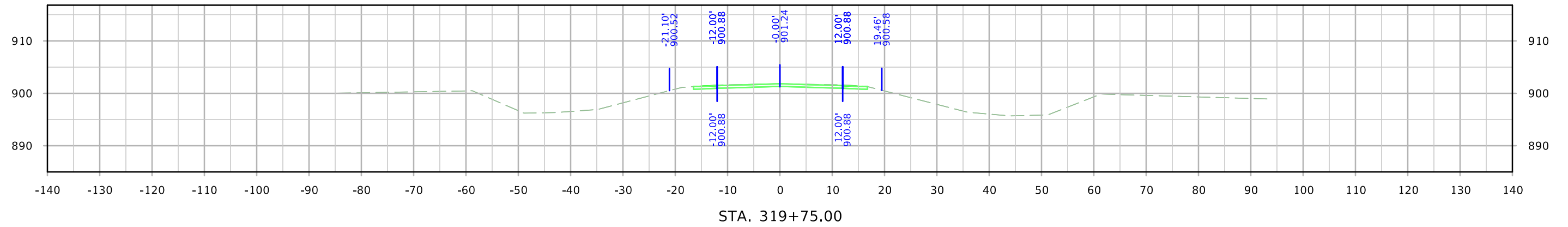
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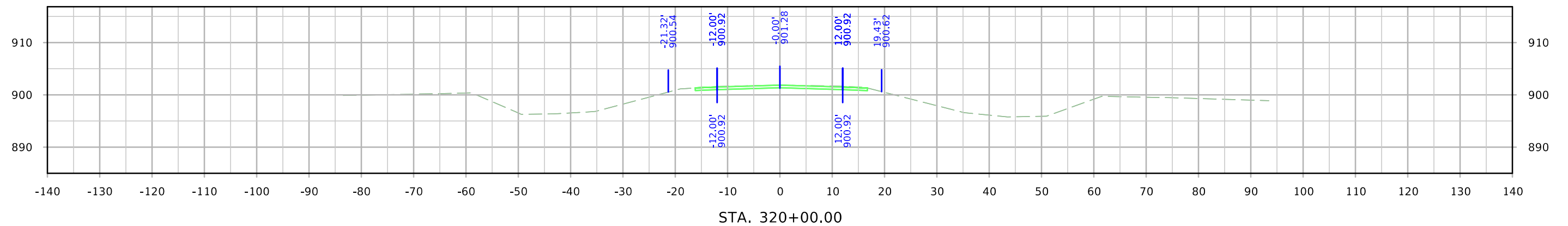
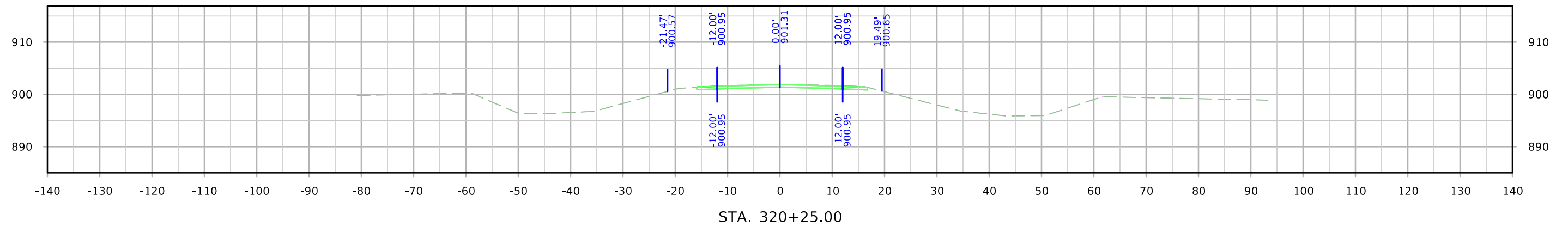
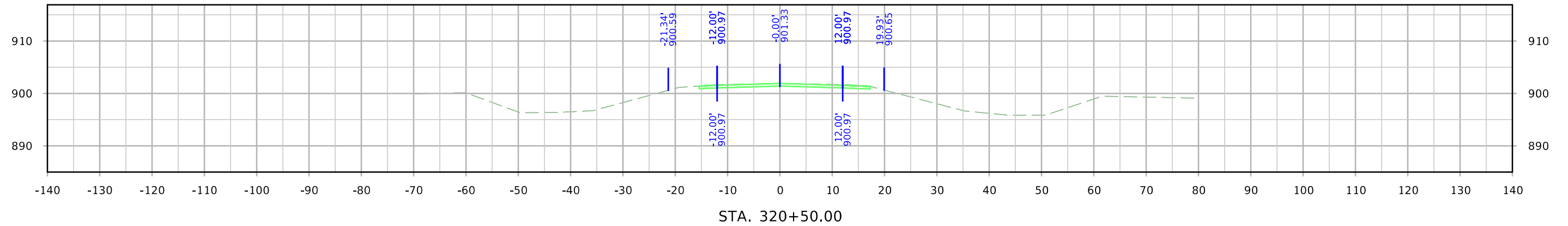
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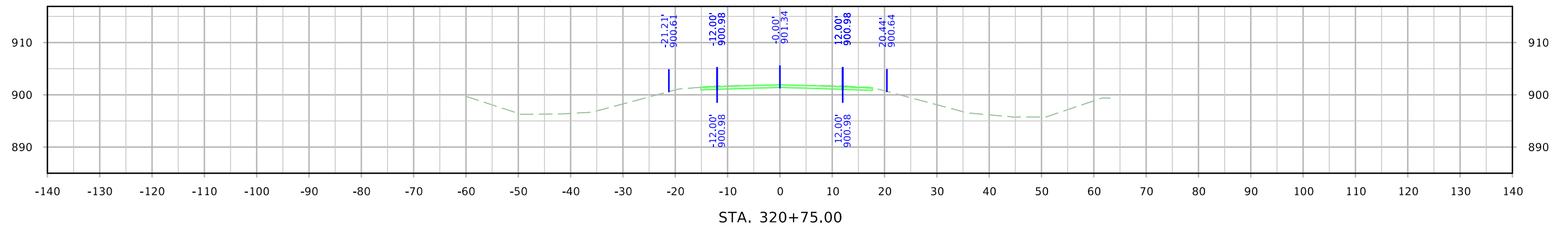
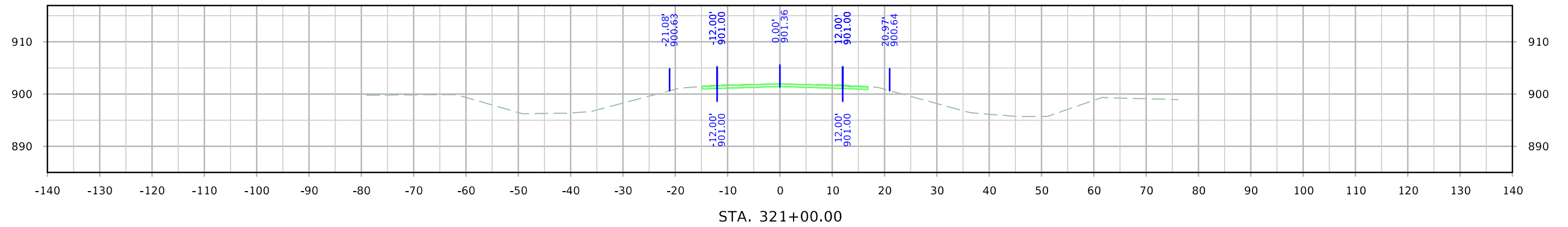
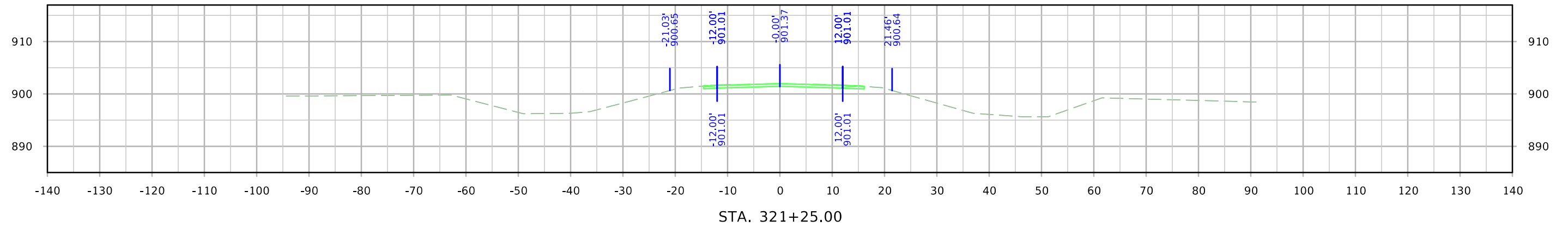
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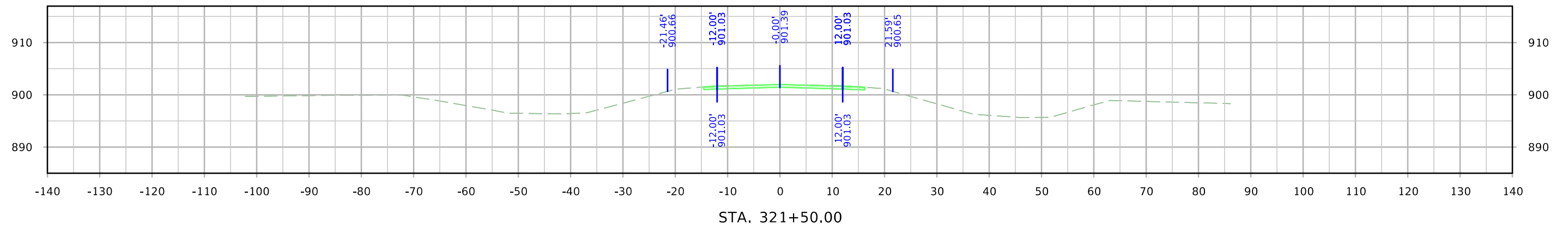
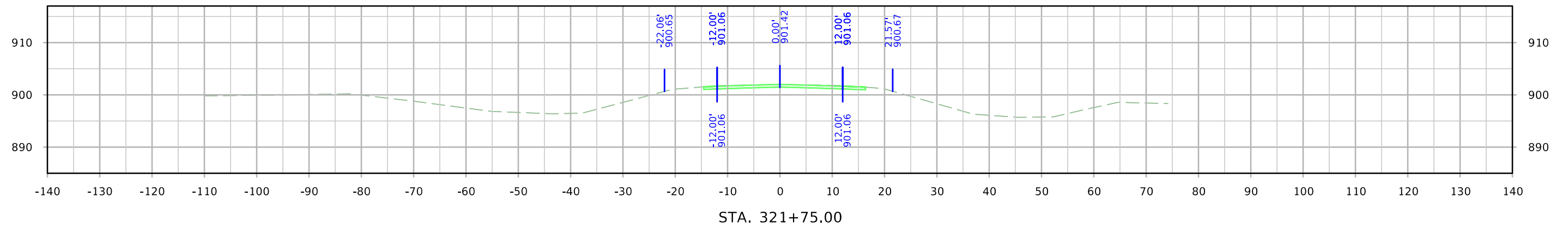
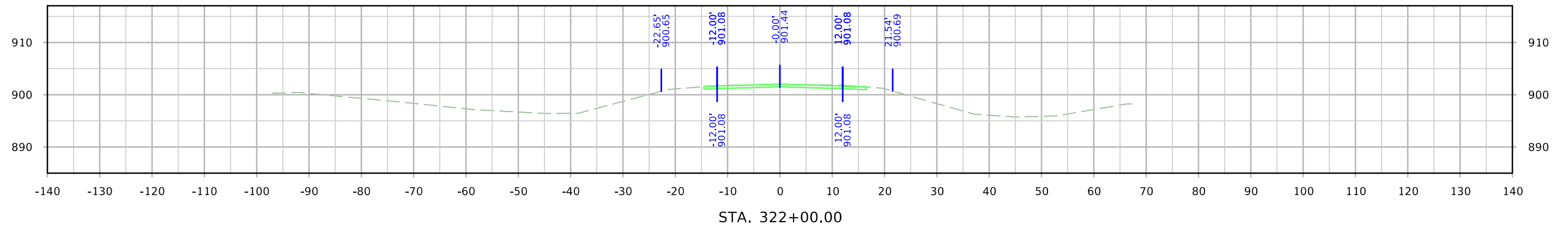
# L AVENUE EXISTING



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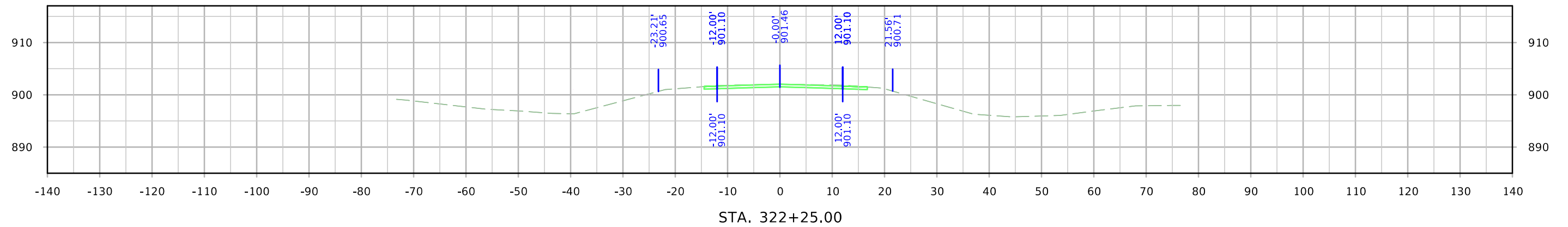
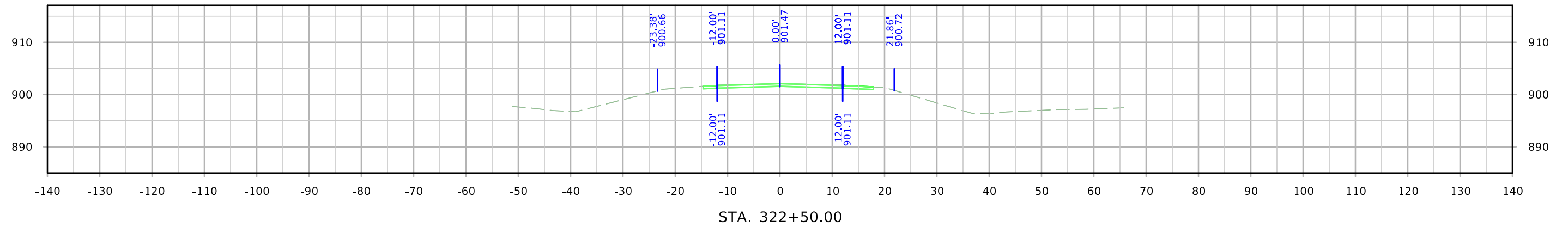
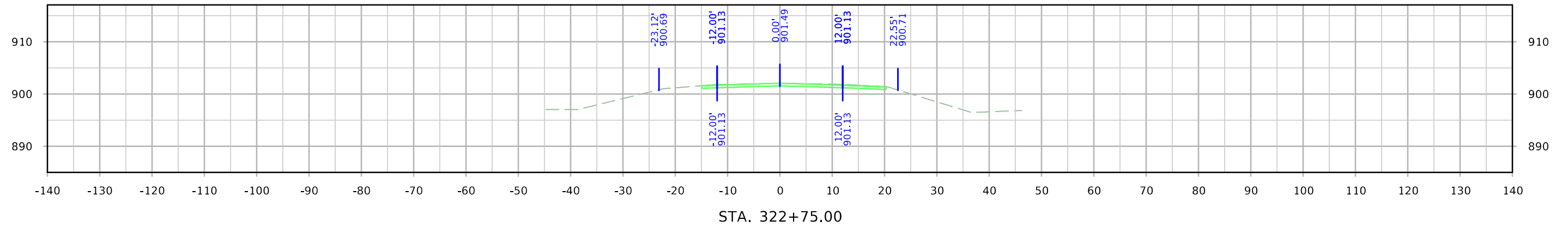


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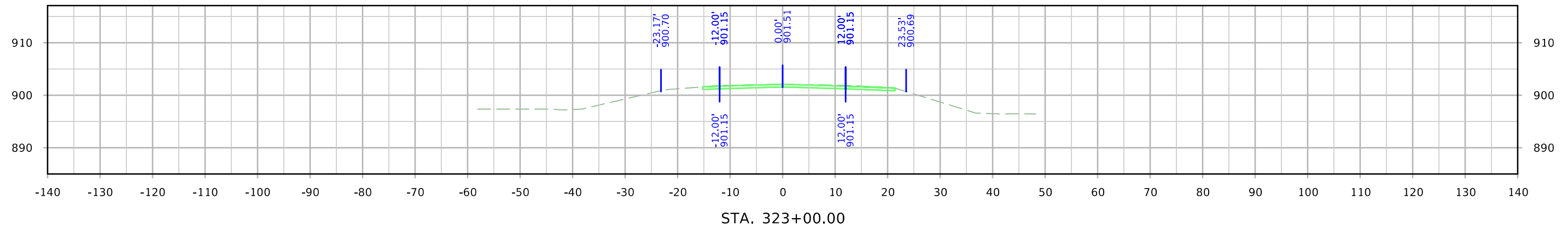
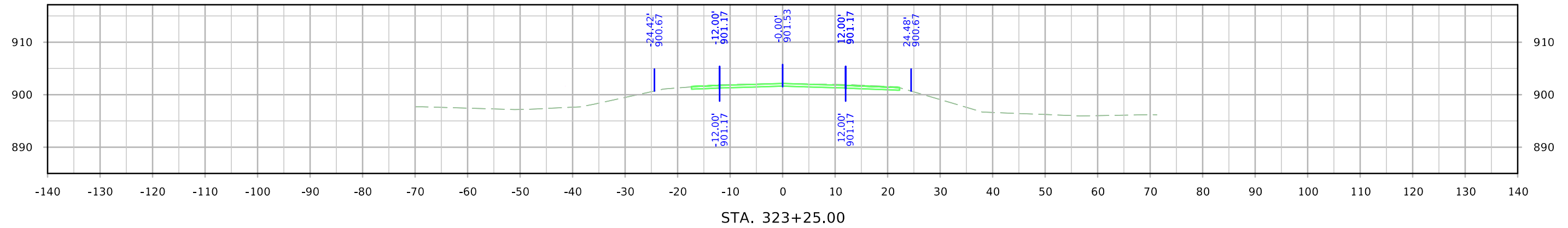
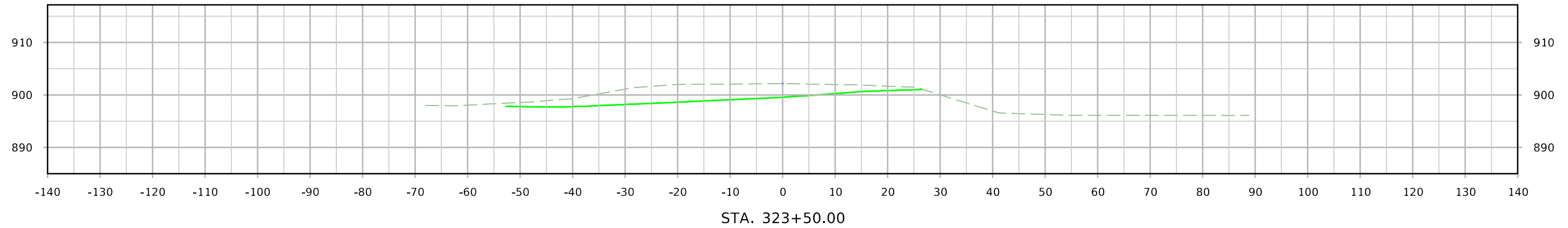




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